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In re Application of:

Robert D. Fogal, Sr.

Application No.:

09/873,872

Filing Date:

June 4, 2001

Title:

METHOD AND SYSTEM FOR TIRE/WHEEL  
DISTURBANCE COMPENSATION

Direct to:

Mail Stop RECONSTRUCTION  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

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### NOTICE UNDER 37 CFR 1.251 - Abandoned Application

Statement (check the appropriate box):

☒ The copy submitted with this reply is a complete and accurate copy of applicant's record of all of the correspondence between the Office and the applicant for the above-identified application (except for U.S. patent documents), and applicant is not aware of any correspondence between the Office and applicant for the above-identified application that is not among applicant's records.

☐ The copy of the paper(s) listed in the notice under 37 CFR 1.251 is/are a complete and accurate copy of applicant's record of such paper(s).

☐ The papers produced by applicant are applicant's complete record of all of the correspondence between the Office and the applicant for the above-identified application (except for U.S. patent documents), and applicant is not aware of any correspondence between the Office and the applicant for the above-identified application that is not among applicant's records.

☐ Applicant does not possess any record of the correspondence between the Office and the applicant for the above-identified application.

5.13.2011  
Date

Signature  
Bret A. Hrivnak  
Typed or printed name

A copy of this notice should be returned with the reply.

Burden Hour Statement: This collection of information is required by 37 CFR 1.251. The information is used by the public to reply to a request for copies of correspondence between the applicant and the USPTO in order to reconstruct an application file. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This form is estimated to take 60 minutes to complete. This time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.



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Practitioner's Docket No. 115838.00056

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Robert D. Fogal, Sr.

Serial No.: 09/873,872

Filed: June 4, 2001

For: METHOD AND SYSTEM FOR TIRE/WHEEL DISTURBANCE COMPENSATION

Mail Stop RECONSTRUCTION

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

TRANSMITTAL OF RESPONSE TO NOTICE UNDER 37 CFR 1.251

Transmitted herewith are copies of:


Transmittal of Application as filed 6/4/01  
Application as filed 6/4/01  
Executed Combined Declaration and Power of Attorney as filed 6/4/01  
Formal Drawings as filed 6/4/01  
Express Mail Label EL 764144528 US  
Return post card stamped 6/4/01 for Application, DecPOA and Dwgs  
Filing Receipt dated 8/2/01  
Transmittal and IDS as filed 10/24/01  
Notice of Publication dated 12/20/01  
Non-Final Office Action dated 1/2/02  
Return post card stamped 1/17/02 for IDS  
Transmittal and Amendment as filed 5/2/02  
Return post card stamped 5/13/02 for Amendment  
Notice of Abandonment dated 8/13/02  
Transmittal and Petition to Withdraw Holding of Abandonment as filed 8/19/02  
Return post card stamped 8/26/02 for Petition to Withdraw Holding of Abandonment  
Decision on Petition dated 10/10/02  
Status Inquiry as filed 2/19/03  
Return post card stamped 2/24/03 for Status Inquiry  
Transmittal and IDS as filed 3/19/03  
Return post card stamped 3/24/03 for IDS  
Electronic IDS dated 6/19/03  
Status Inquiry as filed 1/9/04  
Return post card stamped 1/12/04 for Status Inquiry  
Change of Address/Power of Attorney as filed 12/16/04

Status Inquiry as filed 6/20/06  
e-filing Receipt dated 6/20/06 for Status Inquiry  
Status Inquiry as filed 6/19/07  
e-filing Receipt dated 6/19/07 for Status Inquiry  
Status Inquiry as filed 10/22/08  
e-filing Receipt dated 10/22/08 for Status Inquiry  
Notice Under 37 CFR 1.251 – Abandoned Application dated 2/16/11

Respectfully submitted,

Date: May 13, 2011

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One GOJO Plaza, Suite 300  
Akron, OH 44311-1076  
330-864-5550

  
Bret A. Hrivnak  
Reg. No. 61,743

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**CERTIFICATION UNDER 37 C.F.R. §§ 1.8(a) and 1.10\***  
(When using Express Mail, the Express Mail label number is **mandatory**;  
Express Mail certification is optional.)

I hereby certify that, on the date shown below, this correspondence is being:

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☒ deposited with the United States Postal Service in an envelope addressed to the Commissioner for Patents, Washington D.C. 202  
37 C.F.R. § 1.8(a)  
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**TRANSMISSION**  
☐ facsimile transmitted to the Patent and Trademark Office, (703) \_\_\_\_\_ - \_\_\_\_\_

  
Signature

Date: May 13, 2011

Debra M. Konnerth

(type or print name of person certifying)

\* Only the date of filing (' 1.6) will be the date used in a patent term adjustment calculation, although the date on any ~~date~~ of mailing or transmission under ' 1.8 continues to be taken into account in determining timeliness. See '703(f). Consider "Express Mail Post Office to Addressee" (' 1.10) or facsimile transmission (' 1.6(d)) for the reply to be accorded the earliest possible filing date for ~~patent~~ term adjustment calculations.

Preliminary Classification:  
Proposed Class:  
Subclass:

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Box Patent Application  
Assistant Commissioner for Patents  
Washington, D.C. 20231

NEW APPLICATION TRANSMITTAL

Transmitted herewith for filing is the patent application of

Inventor(s): Robert D. Fogal, Sr.

For (title): METHOD AND SYSTEM FOR TIRE/WHEEL DISTURBANCE COMPENSATION

CERTIFICATION UNDER 37 C.F.R. SECTIONS 1.8(a) AND 1.10\*

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37 C.F.R. Section 1.8(a)

37 C.F.R. Section 1.10\*

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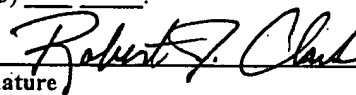
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TRANSMISSION

☐ transmitted by facsimile to the Patent and Trademark Office (703)

Date: June 4, 2001

Signature



Robert J. Clark

(type or print name of person certifying)

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"Since the filing of correspondence under [Section] 1.10 without the Express Mail mailing label thereon is an oversight that can be avoided by the exercise of reasonable care, requests for waiver of this requirement will not be granted on petition." Notice of Oct. 24, 1996, 60 Fed. Reg. 56,439, at 56,442.

**1. Type of Application**

This transmittal is for a continuation application.

**2. Benefit of Prior U.S. Applications (35 U.S.C. Sections 119(e), 120, or 121)**

The new application being transmitted claims the benefit of prior U.S. applications. Enclosed are  
ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S.  
APPLICATIONS CLAIMED.

**3. Papers Enclosed**

A. Required for filing date under 37 C.F.R. 1.53(b) (Regular) or 37 C.F.R. 1.153 (Design)  
Application

16 Page(s) of Specification

4 Page(s) of Claims

3 Sheet(s) of Drawing(s)--Formal

B. Other Papers Enclosed

3 Page(s) of declaration and power of attorney

1 Page(s) of abstract

**4. Declaration or Oath**

Enclosed

Executed by:

\* inventor.

**5. Inventorship Statement**

The inventorship for all the claims in this application is the same.

**6. Language**

English

**7. Fee Calculation (37 C.F.R. Section 1.16)**

Regular Application

| CLAIMS AS FILED  |              |                     |              |          |                                      |
|--|--------------|---------------------|--------------|----------|--------------------------------------|
| Claims   | Number Filed | Basic Fee Allowance | Number Extra | Rate     | Basic Fee 37 CFR 1.16(a)<br>\$710.00 |
| Total Claims<br>(37 CFR 1.16(c))                           | 23           | - 20 =              | 3 x          | \$18.00  | \$54.00                              |
| Independent Claims<br>(37 CFR 1.16(b))                     | 3            | - 3 =               | 0 x          | \$80.00  | \$0.00                               |
| Multiple Dependent<br>Claim(s), if any<br>(37 CFR 1.16(d)) |              |                     | +            | \$270.00 | \$0.00                               |
| Filing Fee Calculation                                     |              |                     |              |          | \$764.00                             |

**8. Small Entity Statement(s)**

Status as small entity was claimed in prior application 09/310,594, filed on May 12, 1999, from which benefit is being claimed for this application under 35 U.S.C. SECTION 120, and which status as a small entity is still proper and desired.

Filing Fee Calculation (50% of above) \$382.00

**9. Fee Payment Being Made at This Time**

Enclosed

Filing Fee \$382.00

**Total Fees Enclosed** \$382.00

**10. Method of Payment of Fees**

Check in the amount of \$382.00 is attached.

**11. Instructions as to Overpayment**

Credit Account No. 15-0450.

**ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF  
PRIOR U.S. APPLICATIONS CLAIMED**

**12. Relate Back**

Amend the specification by inserting, before the first line, the following sentence:

**A. 35 U.S.C. Sections 120, 121 and 365(c)**

This application is a continuation of copending application:

Application number 09/310,594 filed on May 12, 1999.

The nonprovisional application designated above, namely application 09/310,594, filed May 12, 1999, claims the benefit of U.S. Provisional Application Nos.:

**APPLICATION NO.**

**FILING DATE**

60/085,163

05/12/1998

**13. Further Inventorship Statement Where Benefit of Prior Application(s) Claimed**

- a. This application discloses and claims only subject matter disclosed in the prior application whose particulars are set out above and the inventor in this application is the same.

**14. Small Entity (37 C.F.R. Section 1.28(a))**

Applicant has established small entity status by the filing of a statement in parent application 09/310,594 on May 12, 1999.

**15. NOTIFICATION IN PARENT APPLICATION OF THIS FILING**

A notification of the filing of this continuation is being filed in the parent application, from which this application claims priority under 35 U.S.C. Section 120.

Date: June 4, 2001

  
\_\_\_\_\_  
Signature of Practitioner

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## METHOD AND SYSTEM FOR TIRE/WHEEL DISTURBANCE COMPENSATION

### ***Technical Field***

[0001] This invention relates to a method and system for introducing a predetermined amount of a force compensating material into a wheel/tire assembly for counteracting radial and lateral force variations at the tire/road footprint of a pneumatic tire.

### ***Background of the Invention***

[0002] A typical motor vehicle is generally characterized as comprising an unsprung mass and a sprung mass. The unsprung mass generally consists of all of the parts of the vehicle not supported by the vehicle suspension system such as the tire/wheel assembly, steering knuckles, brakes and axles. The sprung mass, conversely is all of the parts of the vehicle supported by the vehicle suspension system. The unsprung mass can be susceptible to disturbances and vibration from a variety of sources such as worn joints, misalignment of the wheel, brake drag, irregular tire wear, etc. Because vehicular tires support the sprung mass of a vehicle on a road surface and such tires are resilient, any irregularities in the uniformity or dimensions of the tire, any dimensional irregularities in the wheel rim, and/or any dynamic imbalance or misalignment of the tire/wheel assembly will cause disturbances and vibrations to be transmitted to the sprung mass of the vehicle thereby producing an undesirable or rough vehicle ride, as well as reducing handling and stability characteristics of the vehicle. Severe vibration can result in dangerous conditions such as wheel tramp or hop and wheel shimmy (shaking side-to-side).

[0003] It is now standard practice to reduce some of these adverse vibrational effects by balancing the wheel rim and tire assembly by using a balance machine and clip-on lead weights. The lead balance weights are placed on the rim flange of the wheel and clamped in place in a proper position as directed by the balancing machine. The balancing procedure can reduce imbalance in the tire/wheel assembly, however, perfect balance is rarely achieved. Balancing is not an exact art and the results are



dependent upon the specific set up of a tire/wheel assembly on a specific balancer at that moment in time. Balancing is an improvement and will reduce the vibration of the tire/wheel assembly in comparison to an unbalanced tire/wheel assembly. However, even perfect balancing of the tire/wheel assembly does not necessarily mean that the tire will roll smoothly. The balancing of the tire/wheel assembly must necessarily be done in an unloaded condition. When the balanced tire is placed on the vehicle, the weight of the vehicle acts on the tire through the interface or contact area of the tire and the road surface which is commonly known as the tire footprint. Irregularities in the tire are common such that even a perfectly balanced tire can have severe vibrations due to non-uniformities in the tire which result in unequal forces within the tire footprint.

**[0004]** A level of non-uniformity is inherent in all tires. In the art of manufacturing pneumatic tires, rubber flow in the mold or minor differences in the dimensions of the belts, beads, liners, treads, plies of rubberized cords or the like, sometimes cause non-uniformities in the final tire. When non-uniformities are of sufficient magnitude, they will cause force variations on a surface, such as a road, against which the tires roll and thereby produce vibrational and acoustical disturbances in the vehicle upon which the tires are mounted. Regardless of the cause of the force variations, when such variations exceed the acceptable minimum level, the ride of a vehicle utilizing such tires will be adversely affected.

**[0005]** Balancing of the tires has also been accomplished by using methods other than balance machines and lead weights. For example, Fogal in U.S. Patent Number 5,073,217 disclosed a method of balancing a vehicle tire/wheel assembly by introducing a pulverulent synthetic plastic material into the interior chamber of the tire wheel assembly. The pulverulent synthetic plastic material has the added effect of compensating for the radial and lateral force variations generated at the tire road interface. The movement of the pulverulent synthetic plastic material within the tire is proportional to the downward force of the vehicle weight and the centrifugal force due to the tire rotation. Also, it has been found for some tire/wheel assemblies, particularly for use with passenger vehicles, a combination of lead weight balancing or the like with the addition of a predetermined amount of material introduced into the tire/wheel assembly

to compensate for radial and lateral force variations at the tire/road footprint of a pneumatic tire of a vehicle. Such disturbances are due to tire/wheel assembly imbalance, non-uniformity of the tire, temporary disturbances in the road surface, or other vibrational effects of the unsprung mass of a vehicle.

**[0006]** While the use of a compensating material introduced into the interior of the tire has been found to work effectively, either alone or in combination with other balancing techniques, a limitation has been found in how to introduce this material into the tire. In the prior approaches, the material is suspended in an air stream and introduced into a tire through a hose line and valve stem used for inflation of a tire. Although such an approach works sufficiently, this method of delivery of a compensating material is in some instances an inconvenient delivery method, and may result in contamination of a work place where a wheel assembly is being balanced. This delivery system has further been utilized in the aftermarket environment to facilitate balancing of replacement tires, and no effective approach to introducing such material into a tire/wheel assembly at original manufacture has been provided.

**[0007]** There is therefore a need for an improved method and system for delivery of a compensating material into the interior of a tire, in a simple and effective manner.

### ***Summary of the Invention***

**[0008]** It is therefore an object of the present invention to provide a method for introducing a compensating material into the interior of a tire to provide compensation for radial and lateral force variations at the tire/road footprint.

**[0009]** These and other aspects and objects of the invention are provided by a method for introducing a compensating material into a tire/wheel assembly comprising the steps of providing at least one self-contained batch of a compensating material, providing a tire, transferring said at least one self-contained batch of compensating material into an interior of said tire, and mounding said tire on a wheel to form a tire/wheel assembly.

### ***Brief Description of the Drawings***

[0010] This invention will now be described in further detail with reference to the accompanying drawings, in which:

[0011] Fig. 1 is a fragmentary side elevational view of a conventional wheel assembly including a tire carried by a rim, and illustrates a lower portion or "footprint" of the tire tread resting upon and bearing against an associated supporting surface, such as a road.

[0012] Fig. 2 is an axial vertical cross sectional view through the wheel assembly of Fig. 1 and additionally illustrates the lateral extent of the footprint when the tire rests under load upon the road surface.

[0013] Fig. 3 is an enlarged cross sectional view identical to Fig. 2, and illustrates the manner in which synthetic polymeric resin pulverulent material is deposited with an interior of a tire through an associated tire valve.

[0014] Fig. 4 is a cross sectional view of the wheel assembly of Fig. 3 during rotation, and illustrates a plurality of radial load forces of different variations or magnitudes reacting between the tire and the road surface as the tire rotates, and the manner in which the polymeric pulverulent material is forced from the position shown in Fig. 3 in proportion to the variable radial impact forces.

[0015] Fig. 5 shows a preferred embodiment of a self-contained batch of compensating material for introduction into a tire according to the invention.

[0016] Fig. 6 shows another preferred embodiment of a self-contained batch of compensating material for introduction into a tire according to the invention.

### ***Description of the Preferred Embodiment***

[0017] This invention will now be described in detail with reference to preferred embodiments thereof.

[0018] Reference is first made to Figs. 1 and 2 of the drawings which illustrate a conventional wheel assembly generally designated by the reference numeral 10 defined by a tire 11 and a metal rim 12 carrying a tire valve or air valve 13 which includes a stem 14 having an internal thread. Under normal operating/road conditions, a valve core may be threaded into the stem 14 of the tire valve 13. The valve stem 14

may also include a conventional external thread. The tire 11 is a radial tire. A biased tire essentially does not flex radially whereas a radial tire tends to flex radially, and in use the latter can be evidenced by sidewalls SW1, SW2 (Figs. 1, 2, 3 and 5) which tend to bulge outwardly under load when resting or running upon a surface, such as a road R. The amount of flex will vary depending upon such things as the total load of the vehicle, the speed of the vehicle, etc., and the load force can vary from wheel assembly to wheel assembly both in smaller passenger vehicles and larger vehicles, such as tractor trailers. For example, a fully loaded tractor trailer traveling at sixty miles an hour carrying heavy steel has a greater radial load force and therefore greater tire flex than the same tractor trailer traveling unloaded, as occurs quite often in the hauling industry. Furthermore, as the load increases, the flex of the tire increases and the overall radius decreases. Obviously, if a wheel assembly was conventionally "balanced" by utilizing lead weights applied to the rims, the lead weights would be effective to achieve balancing for a particular load and for a limited speed range, but not for the full variations in load force and all speeds. Similarly, in passenger vehicles with much lower gross vehicle weights, radial and lateral force variations may occur due to any irregularities in the uniformity or dimensions of the tire, any dimensional irregularities in the wheel rim, and/or any dynamic imbalance or misalignment of the tire/wheel assembly. Such disturbances and vibrations will be transmitted to the sprung mass of the vehicle, producing an undesirable or rough vehicle ride, as well as reducing handling and stability characteristics of the vehicle.

**[0019]** Therefore, even when tire/wheel assemblies are balanced with today's sophisticated electronic balancing machines the wheels are not balanced for all speeds and all radial force variations. It is therefore desirable in both large tractor/trailer tire/wheel assemblies and smaller passenger vehicle tire/wheel assemblies to provide for dynamic compensation of radial and lateral force variations by introducing a compensation material into the tire.

**[0020]** The radial tire 11 includes a lower tire portion or a footprint B defined by a length L and a lateral breadth or width W which collectively define the instantaneous cross sectional area of the tire lower portion B in engagement with the supporting

surface or road R when the wheel assembly 10 is stationary or is rotating. The tire T includes a conventional external tire tread T and beads B1, B2 of the respective sidewalls SW1, SW2 which engage the rim 12 in a conventional manner.

**[0021]** If the wheel assembly 10 and similar wheel assemblies associated with a vehicle (not shown) are not properly/perfectly balanced, the attendant unbalanced condition thereof during vehicle wheel rotation will cause the tires to wear unevenly, wheel bearings will wear excessively, shock absorbers operate at inordinately higher amplitudes and speeds, steering linkages/mechanisms vibrate excessively and become worn and overall vehicle ride is not only rough and dangerous, but also creates excessive component wear of the entire vehicle. These problems are significant in automobiles, and are magnified in association with extremely large tires, such as truck tires, which are initially very expensive and if uncared for through unbalanced running, would adversely affect truck tire life, safety, and just as importantly, tire retreading.

**[0022]** Obviously, even if the wheel assembly 10 was balanced as perfectly as possible with lead weight, whether by static or dynamic balancing, as road conditions change, as the tire 11 wears, as the load of the vehicle changes, etc., the "perfect" balanced condition of the wheel assembly 10 is far less than perfect. Accordingly, not only must the wheel assembly 10 be balanced, but it is desired that the balanced condition be retained during operation to stay in balance in response to variations in road conditions, load forces, changes in speed, etc., as might occur in conventional utilization as, for example, in the case of a loaded versus an unloaded tractor trailer. Thus, as forces vary during rotation of the wheel assembly 10 relative to the road R, the force variations are desirably compensated for dynamically using a compensating material within the tire which dynamically moves within the tire to facilitate maintaining load force equalization.

**[0023]** According to the present invention, effective tire balancing and/or a reduction in both radial and lateral forces acting on a tire/wheel assembly can be achieved through the incorporation of a compensating material, preferably in the form of a dry lubricant in combination with a primary pulverulent material having a mesh size range between 8 and 200. For purposes of this invention, the concept of balancing a vehicle

and reducing external radial and lateral forces acting on a tire shall be referred to as "total wheel balancing". Although the invention will be described with reference to particular compensating materials comprising dry particulates, compensating material within the scope of this invention includes liquids, particulate solids, and combinations thereof.

**[0024]** The primary or principal ingredient material in a solid compensating material composition of the present invention may be either an inorganic material or an organic material in generally a particulate or more specifically a pulverulent form. Particulate materials are those formed by any process resulting in relatively small, discrete solids. Such processes include but are not limited to precipitation, polymerization, spraying, solidification, and comminution. Pulverulent materials are those particulate materials that have been reduced in size through a suitable size reduction process, such as grinding, abrading, or other comminution processes. Suitable inorganic materials include, for example, powdered carbon, iron powder or filings, other metallic particles such as lead shot, talc, and calcium carbonate (e.g., limestone or calcite). Organic materials are for the most part polymeric. The polymeric material is in a particulate or pulverulent form which may be either granules, a powder, or a dust.

**[0025]** Any compensating material that is stable and remains free flowing over all conditions of tire usage, and has a specific gravity greater than 1 may be suitable as a compensating material according to the present invention. In the preferred embodiment, a particulate material comprised of particles in sizes to be discussed below, can be used as a wheel balancing material. An important requirement is that the particulate material must be more thermally stable than the tire in which it is used under all tire operating conditions.

**[0026]** Organic polymeric materials for the practice of this invention may be either homopolymers (polymers of one monomer) or copolymers (polymers of two or more monomers). Probably, they are either thermoset or thermoplastic, although any material which is stable over the range of temperature extremes to which the tire is subjected is contemplated.

**[0027]** Thermoset resins useful in the practice of this invention include urea-

formaldehyde, melamine-formaldehyde, and phenolic resins. All of these are known molding compounds which are available in either granular or powdered form. Urea-formaldehyde and melamine-formaldehyde molding powders commonly contain a filler, particular alpha-cellulose.

**[0028]** Suitable thermoplastic polymers include polyvinyl chloride and vinyl chloride-vinylidene chloride copolymers (which normally contain a major amount of vinyl chloride and a minor amount of vinylidene chloride), both of which may be plasticized; and nylon. Aramid fibers may also be used in the practice of this invention. Both nylon and aramid are polyamides, although they have quite different chemical composition and properties.

**[0029]** A particularly preferred pulverulent material is polymerized urea-formaldehyde thermoset resin, available in granular, powder, or dust form. One such material is available under the trade name POLYPLUS manufactured by U.S. Technology Corporation of Canton, Ohio. This pulverulent material is non-volatile, nontoxic, noncorrosive and includes the characteristics shown in the table below.

**[0030]**

**TABLE**

|                                     |                      |
|-------------------------------------|----------------------|
| Hardness (Barcol)                   | 54 to 62             |
| Hardness (Rockwell)                 | M 110-120            |
| Hardness (MOHS Scale)               | 3.5                  |
| Specific Gravity (g/cc)             | 1.47 - 1.52          |
| Bulk Density                        | 58 - 60              |
| Ignition Temperature                | 530 C.               |
| Thermal Decomposition               | 450 C.               |
| Maximum Operating Temperature       | 300 F.               |
| Izod Impact                         | ASTM D256A-0.25-0.40 |
| Water Absorption (ASTM D570-24 hr.) | -0.4%-0.8%           |
| Water Absorption (MIL-A-85891A)     | -Max 10%             |
| Chemical Nature                     | Inert                |

**[0031]** A preferred pulverulent material is composed of polymerized urea molding compound (70% by weight), alpha cellulose filler (28% by weight), and pigments and additives (2% by weight). Although the preferred compound is 70% urea, 28% alpha cellulose and 2% additives, 100% urea formaldehyde or combinations of various materials (examples of which have been disclosed above) are possible. Again, the invention contemplates a wide variety of suitable materials having the physical characteristics as described above, and no limitation is intended in relation to the preferred compensating materials set forth herein.

**[0032]** Particle sizes of a preferred particulate material used in the practice of this invention may range broadly from about 8 to about 425 mesh (U.S. Standard screen size). Additionally, the material may comprise a polymodal distribution of particle sizes, including material in different particle size ranges. Good results are obtainable with a blend or distribution of particle sizes within this range. Fine particles move more quickly in response to small radial and lateral forces, while large particles move more slowly and in response to greater forces. Using particles within at least two distinct sizes or size ranges, so that different size particles will move in reaction to differing amount of forces. For example, it is believed that the smaller particles will move first in response to smaller forces. The larger particles then move in sort of a second stage of balancing or equalizing when forces are greater. One may use a particle blend having a bimodal particle size distribution, e.g., a blend of relatively coarser particles having particle sizes 20-40 mesh blended with relatively finer particles which are predominantly from 50-100 mesh.

**[0033]** The particles must have a specific gravity greater than 1 so that they will move positively and as quickly as possible from one place to another in response to external force. It has also been found that the addition of dry powder lubricant or anti-agglomerating agents can significantly increase the effectiveness of the principal particulate material. The dry lubricant acts to coat the interior surface of the tire as well as the primary particulate material particles. In this way particle-particle friction of the particulate material is reduced as is friction at the particulate particle-tire surface



interface. The reduced friction allows the particulate material to respond more quickly in counteracting radial and lateral forces acting on the vehicle wheel assembly.

**[0034]** When present in a sufficient amount the dry lubricant serves as a vehicle within which the pulverulent material may freely flow or move laterally and circumferentially within the tire. Further due to the extremely fine particle size of the lubricant, quantities of the lubricant itself may quickly move to positions within the tire in order to counteract radial and lateral forces acting on the vehicle wheel assembly. Other anti-agglomerating agents to function in this manner are also contemplated.

**[0035]** Presently, preferred dry lubricants or anti-agglomerating agents are selected from a group of materials which include talc (or talcum), graphite, molybdenum disulfide, polytetrafluoroethylene, as well as various polymers, metals, metal oxides and salts which are known for use as solid lubricants. As with the primary pulverulent material, the lubricant is to be thermally and chemically stable at all operating conditions of the tire and must be chemically and physically compatible with the primary pulverulent material. Currently of these materials, the most preferred lubricant is talc.

**[0036]** In another embodiment, a wheel balancing material may be in the form of a liquid or a liquid/solid combination, as described in U.S. Pat. No. 3,463,551, the teachings of which are fully incorporated by reference.

**[0037]** Referring to Figs. 5 and 6, compensating materials according to the invention as above described are formed into self-contained batches comprising larger masses or agglomerates, as for example, pellets, briquettes, extrudates, or self-contained packages of free-flowing particulates or liquids for charging into a pneumatic tire. These larger masses or agglomerates comprise a plurality of particles, usually a large number of particles, which in the embodiment of Fig. 5 are either coherently or adherently held together tightly enough for shipping, handling and charging into a tire without premature disintegration. In Fig. 5, a briquette 30 comprises a predetermined amount of compensating material packaged in a convenient form for handling and introduction into a tire prior to assembly with a wheel by simply placing the briquette 30 into the tire interior. Upon subsequent mounting of the tire onto a wheel and the mounting of the tire/wheel assembly on a vehicle, rotation of the assembly will cause

the briquette 30 to break down into the individual particles from which it is made. The formation of the briquette 30 may be performed by typical processes to temporarily bind the individual particles together into a form which is easily handled and allows a predetermined amount of compensating material to be easily chosen and added to the tire. The binding of the particles together in the briquette 30 allows the particles to stay together for shipping and handling, but once introduced into the tire, the agglomerate will disintegrate, releasing individual particles, which then perform their compensating and vibration damping function in the manner described. Thus a batch of compensating material is self-contained in the embodiment of Fig. 5, with the agglomerate of material retaining its agglomerated form during shipping, handling, and charging without substantial loss of particulate material, i.e., the batch remains substantially self-contained until after a tire containing the batch is mounted on a wheel and the wheel is rotated at high speed, such as during operation of the vehicle.

**[0038]** In order to introduce wheel balancing material in the form of agglomerates into a tire in an amount sufficient to balance a wheel assembly, it is necessary to introduce at least one self-contained batch, and it may be necessary to introduce more than one self-contained batch, as in the form of pellets, or a single self-contained batch, as in the form of a briquette 30. A self-contained batch is preferably sized such that it may be introduced into a tire as one batch (such as a briquette) or in a plurality of batches (such as pellets). The number of self-contained batches required to provide the desired compensation of radial and lateral force variations at the tire/road footprint will in turn be dependent on the characteristics of the tire/wheel assembly 10 as well as the characteristics of the vehicle on which the assembly is to be used. For example, the amount of compensating material required to provide the desired compensation function will increase as the size of the tire increases and as the gross vehicle weight increases. Further, it may be determined that a tire is imbalanced to a certain extent which would require a greater amount of compensating material. Other characteristics of a tire/wheel assembly, such as non-uniformity may also vary the amount of compensating material required. Thus, according to the invention, the self-contained batches of material may be formed in a variety of predetermined sizes to allow the

desired amount of material to be easily chosen and introduced into the tire of a particular tire/wheel/vehicle combination simply and effectively. In general, the preferred amount of the preferred compensating material for passenger and light truck vehicles is in a range of 0.20-2.0 ounces while larger vehicles may use a larger amount, such as between 1.5-24 ounces. These amounts may vary depending on particular characteristics of the tire/wheel/vehicle. More particularly, the following ranges of the preferred compensating material are generally found to be effective for the following tire sizes. For a 13" tire/wheel, an amount of compensating material for incorporation therein may range from about 0.2-0.6 ounces. A 14" tire/wheel may require an amount of compensating material in the range from about 0.4-0.9 ounces, while a 15" tire/wheel may require between 0.8-1.4 ounces. For a 16" tire/wheel, the amount of compensating material that may be required may range from about 1.0-1.7 ounces, while a 17" tire/wheel may require an amount in the range from about 1.2-2.0 ounces. For truck tires, the amount of compensating material that would be desired for compensating radial and lateral force variations may lie in the range between 2.0-6.0 ounces. Again, depending on the material itself as well as the characteristics of the tire/wheel/vehicle, the amount of material desired may vary. In general, the amount of material is sufficient to balance a wheel assembly and compensate for radial and lateral force variations at the footprint. Thus, as tires of any size, ranging from passenger car tires to truck tires, can be treated with a composition according to this invention for the purpose of balancing a wheel assembly and/or equalizing load forces. The amount (or weight) of powdered material per tire to be used will vary over a wide range, depending on the size of the tire and the amount that the tire is out of balance, whether this amount be expressed as a suitable range or as an optimum amount. A suitable amount of material to be used can be determined empirically, and indeed may require determination empirically, since the amount that a tire is out of balance is determined empirically.

**[0039]** Based on the above, the self-contained batch of compensating material within the scope of this invention will allow the desired amount of material to be added by positioning one or more of the self-contained batches on the interior of the tire. The

briquette 30 may thus be formed in a single size, with one or more then used to achieve the desired amount, or could be produced in a predetermined amount for each tire size as an example. Minor adjustments of the amounts used could also be supplemented by small pellets or the like to fine tune the amount for a particular tire/wheel assembly.

**[0040]** In the embodiment of Fig. 5, the composition of an agglomerate (e.g., a pellet, briquette, or extrudate) may be either (1) a binderless agglomerate in which particles are self-adhesively held together, (2) an agglomerate comprising particles, such as pulverulent material, and a binder, or (3) a coated product.

**[0041]** A binderless pellet or briquette consisting essentially of 100% pulverulent or other particulate material self-adhesively held together as above described, is a composition according to this first embodiment. The pulverulent or other particulate material must be sufficiently self adhesive to form binderless agglomerates such as pellets or briquettes.

**[0042]** Pellets can be prepared by compressing an initially particulate material, which is typically light and bulky, into pellets of desired size and shape (e.g., spherical) on a pellet mill. Briquettes can be formed by shaping a particulate material with heat and pressure in a briquetting mold. Other pre-formed shapes can be produced using continuous forming processes such as extrusion followed by chopping. Binderless pellets, briquettes, and extrudates require a starting particulate material which is sufficiently cohesive so that the resulting pellet, or briquette, or extrudate will retain the structural integrity until charged into a tire according to this invention. Also, the processing conditions (e.g., degree of compression) must be such that the pellet, briquette, or extrudate remain substantially self-contained during shipping, handling, and charging into a tire, but will break apart in a tire upon rotation of the tire, releasing individual particles which will then perform their desired function. Depending on the compensating material, these processing conditions would be readily determined by one of ordinary skill in the art without undue experimentation.

**[0043]** A second type of composition comprises particles of pulverulent material and a binder. The binder holds particles of pulverulent material so that a coherent mass such as a pellet, briquette, or extrudate can be formed. Binders may be either

inorganic or organic. For instance, certain resinous materials are capable of performing this function. Certain inorganic materials, as for example sodium silicate ("water glass") can also be used. Typically, the binder will be soft at high temperature and hard at room temperature. The binder ordinarily constitutes from about 1 to about 20% of total composition weight, more typically from about 2% to about 10% by weight.

**[0044]** A third form of composition according to this invention is a coated product. The coating material may be either abradable or thermally activated. An abradable coating is one which would undergo rupture or disintegration due to mechanical forces placed on it in a rotating tire. An abradable material may be either a thin polymer or an inorganic coating material. Inorganic coating materials include liquid sodium silicate. A thermally activated coating material is one having a low melting temperature, lower than that attained in a tire due to heat build up in normal operation of a vehicle. A number of low melting temperature materials are suitable. The coating material may coat either individual particles or may form an outer layer of a pellet or briquette, the particles of pulverulent material forming the interior. In either case the amount of coating agent will be from about 1% to about 20% by weight, based on total composition weight, and more preferably, from about 2% to about 10% of total composition weight.

**[0045]** The compositions above described may be formed by known procedures. Pellets, briquettes and other agglomerates or extrudates according to this invention may be made of any convenient size and shape. Pellets are typically either spherical or ellipsoidal. Briquettes are typically pillow shaped as shown in Fig. 5. Extrudates are typically cylindrical. None of these shapes is critical. Size also is not critical, except that an agglomerate should be no larger than is necessary to contain wheel balancing material sufficient to charge a given tire size using one self-contained batch. An agglomerate can be small enough to permit charging of a plurality of self-contained batches.

**[0046]** In another embodiment as shown in Fig. 6, a self-contained batch of particulate wheel balancing material is made in the form of a bag 40 containing free flowing compensating material. A bag is also suitable as a self-containment form for liquid and liquid/solid materials. A bag is preferably made of a material that will abrade,

tear or shred upon rotation of an assembled wheel. Suitable materials include generally paper and plastic. In Fig. 6, the bag 40 is designed to contain a predetermined amount of compensating material to allow shipping, handling and charging of a tire/wheel assembly without substantial loss of material, and then to break down to release the free-flowing particles or other material. In an embodiment of bag 40, a paper material may be used to form bag 40 in a conventional manner using form, fill and seal equipment. In such equipment, bag 40 is produced with an initially open top, the compensating material is placed therein, and the top is then sealed. In a particular example, a 20 lb. paper was used to form bag 40, with the edges thereof hot sealed using a 5 lb. low density polyethylene glue. Other paper weights or glues may also be suitable for a given tire/wheel assembly. Thus a bag of compensating material is self-contained in that it will retain substantially all of the material batch in the bag until the bag is transferred into a tire.

**[0047]** Also in this embodiment, the bag 40 may be produced of a polymeric film, similar to typical poly bags. In such an embodiment, the edges of the bag can be easily heat sealed, eliminating any requirement for gluing. The bag 40 can also be double-sealed to facilitate handling and also subsequent degradation of the bag to release the compensating material. In such an embodiment, a primary seal 42 can be formed at the top edge of bag 40. The seal 42 would preferably be a relatively strong seal to withstand shipping and handling. A secondary seal 44 may also be provided in the bag 40, which preferably would be a weaker seal, being more easily opened to release material from within the bag 40. In use, the primary seal could be torn away or otherwise removed for charging of a tire, leaving only the secondary seal 46 which will easily release material upon subsequent rotation of the assembly. To facilitate this, a perforation line 46 could be formed between seals 42 and 44. Other suitable sealing techniques to facilitate this process are also contemplated.

**[0048]** In a further embodiment of a self-contained batch using a container such as a bag 40 for the free-flowing material, may also use perforations 48 in the bag material (whether paper or polymeric) if desired, to facilitate shredding of the bag 40 and release of the compensating material. Such perforations can be formed using conventional

perforating equipment. It should be understood that any such perforations would have to be of a character to not allow the escape of material from within the bag 40 until bag 40 has been charged into a tire. The perforations, or microperforations, if any, are sufficiently small to prevent loss of wheel balancing material through the perforation holes, but also facilitate shredding of the bag 40 upon rotation of the tire.

**[0049]** Use of a bag is preferential for materials that are not easily agglomerated, such as metal shot and other metallic materials. Use of a bag as a containing means is not therefor limited and can be used for any compensating material including particulate or pulverulent material, liquid materials or combinations within the scope of this invention.

**[0050]** Self-contained batches such as agglomerates and bags of material according to this invention may be charged or introduced into a tire in any desired fashion. If the self-contained batches were formed in the proper size such as small pellets, it may be possible to introduce such pellets into a tire through its valve. It will usually be more convenient, however, to use larger size agglomerates (pellets, briquettes, or extrudates) or bags and to introduce them into a tire before the tire is mounted on a rim to form a wheel assembly. The self-contained batch of material can be introduced into the tire prior to assembly with a wheel, either at original manufacture or during replacement or repair. Introduction or transfer of self-contained batches into a tire can be by manual transfer or by automatic, machine transfer.

**[0051]** While this invention has been described with reference to preferred embodiments thereof, it shall be understood that such description is by way of illustration and not by way of limitation.

## Claims

### What is claimed is:

- 1 1. A method for introducing a compensating material into a tire/wheel assembly  
2 comprising the steps of:  
3 providing a tire;  
4 providing at least one self-contained batch of compensating material;  
5 transferring said at least one self-contained batch of compensating material into  
6 an interior of said tire; and  
7 mounting said tire on a wheel to form a tire/wheel assembly;  
8 wherein compensating material is released from said at least one self-contained  
9 batch such that said compensating material is able to freely flow within said tire/wheel  
10 assembly.
- 1 2. The method of claim 1, wherein said compensating material is a particulate  
2 material.
- 1 3. The method of claim 2, wherein said particulate material comprises a polymer.
- 1 4. The method of claim 2, wherein said particulate material comprises urea  
2 formaldehyde resin and cellulose filler.
- 1 5. The method of claim 2, wherein said particulate material comprises a metallic  
2 material.
- 1 6. The method of claim 2, wherein said particulate material comprises an inorganic  
2 material.
- 1 7. The method of claim 1, wherein said compensating material comprises at least in



2 part a liquid material.

1 8. The method of claim 1, wherein said self-contained batch is provided in at least  
2 one device to contain said material, wherein said device is destroyed to release said  
3 material.

1 9. The method of claim 8, wherein said at least one device to contain said material  
2 is at least one bag.

1 10. The method of claim 9, wherein said at least one bag is a paper or plastic bag.

1 11. The method of claim 8, wherein said at least one device is adapted to release  
2 said compensating material after positioning thereof inside said tire and upon rotation of  
3 said tire/wheel assembly.

1 12. The method of claim 8, wherein said device is made of a material which will  
2 break down upon being rotated within said tire/wheel assembly to release said  
3 compensating material.

1 13. The method of claim 9, wherein said bag has a plurality of perforations therein.

1 14. The method of claim 9, wherein said bag has a primary seal and a secondary  
2 seal, wherein said primary seal is a relatively stronger seal than said secondary seal.

1 15. The method of claim 14, wherein said primary seal is removed prior to  
2 introduction of said bag into a tire.

1 16. The method of claim 1, wherein said self-contained batch comprises an  
2 agglomerate.

1 17. The method of claim 16, wherein said agglomerate is selected from the group  
2 consisting of pellets, briquettes, and extrudates.

1 18. The method of claim 16, wherein said agglomerate is comprised of particles  
2 which are self-adhesively held together.

1 19. The method of claim 16, wherein said agglomerate is comprised of particles held  
2 together with a binder.

1 20. The method of claim 16, wherein said agglomerate is comprised of particles held  
2 together using an exterior coating surrounding said particles.

1 21. The method of claim 1, wherein said transferring step is selected from the group  
2 consisting of manual transfer and machine transfer.

1 22. A method of compensating for radial and lateral force variations at the tire/road  
2 footprint of a tire/wheel assembly comprising the steps of:  
3 providing a predetermined amount of compensating material in at least one self-  
4 contained batch in a form preventing said compensating material from freely flowing  
5 apart from self-contained batch,  
6 putting said self-contained batch into an interior of said tire,  
7 mounting said tire on a wheel to form a tire/wheel assembly,  
8 mounting said tire/wheel assembly on a vehicle,  
9 wherein said compensating material is released from said self-contained batch  
10 and disperses within said tire/wheel assembly to provide compensation of said force  
11 variations.

1 23. A method for introducing a compensating material into a tire/wheel assembly  
2 comprising the steps of:  
3 providing a tire;

4 providing at least one self-contained batch of compensating material, said at  
5 least one self-contained batch comprising at least one bag containing a predetermined  
6 amount of said compensating material, placing said at least one bag into an interior of  
7 said tire;

8 mounting said tire on a wheel forming a tire/wheel assembly; and

9 mounting said tire/wheel onto a vehicle;

10 inflating said tire/wheel assembly whereby said at least one bag becomes  
11 ruptured to release said compensating material within said tire/wheel assembly;

12 wherein said predetermined amount of said compensating material is directly  
13 related the size of said tire.

Abstract

The invention is directed to a method for introducing a compensating material into a tire/wheel assembly by providing at least one self-contained batch of a compensating material having a predetermined amount of such material and being selectively transferable into a tire. The at least one batch of material remains substantially self-contained for shipping and handling. The at least one batch is then transferred into the tire, and the tire is thereafter mounted onto a vehicle for operation or otherwise rotated wherein the at least one self-contained batch of material disperses the material within the tire upon rotation.

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**COMBINED DECLARATION AND POWER OF ATTORNEY**

(ORIGINAL, DESIGN, NATIONAL STAGE OF PCT, SUPPLEMENTAL, DIVISIONAL,  
CONTINUATION, OR C-I-P)

---

As a below named inventor, I hereby declare that:

**TYPE OF DECLARATION**

This declaration is for an original application.

**INVENTORSHIP IDENTIFICATION**

My residence, post office address and citizenship are as stated below, next to my name. I believe that I am the original, first and sole inventor (*if only one name is listed below*) or an original, first and joint inventor (*if plural names are listed below*) of the subject matter that is claimed, and for which a patent is sought on the invention entitled:

**TITLE OF INVENTION**

Method and System for Tire/Wheel Disturbance Compensation

**SPECIFICATION IDENTIFICATION**

The specification was filed on May 12, 1999, as Serial No. 09/310,594.

**ACKNOWLEDGMENT OF REVIEW OF PAPERS AND DUTY OF CANDOR**

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information, which is material to patentability as defined in 37, Code of Federal Regulations, § 1.56.

**CLAIM FOR BENEFIT OF PRIOR U.S. PROVISIONAL APPLICATION(S)**  
(35 U.S.C. § 119(e))

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below:

**PROVISIONAL APPLICATION NUMBER**

60/085,163

**FILING DATE**

05/12/1998

**POWER OF ATTORNEY**

I hereby appoint the following practitioner(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

Scott M. Oldham

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Edwin W. Oldham

Registration Number 22003

Stephen L. Grant

Registration Number 33390

Mark A. Watkins

Registration Number 33813

Craig E. Miller

Registration Number 33427

R. Eric Gaum

Registration Number 39199

Robert P. Bennett

Registration Number 38073

I hereby appoint the practitioner(s) associated with the Customer Number provided below to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.

---

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---

## DECLARATION

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

## SIGNATURE(S)

Robert D. Fogal, Sr.

Inventor's signature

Date

Residence Chambersburg, PA

Post Office Address 15 Kenwood Road  
Chambersburg, PA 17201

Country of Citizenship U.S.

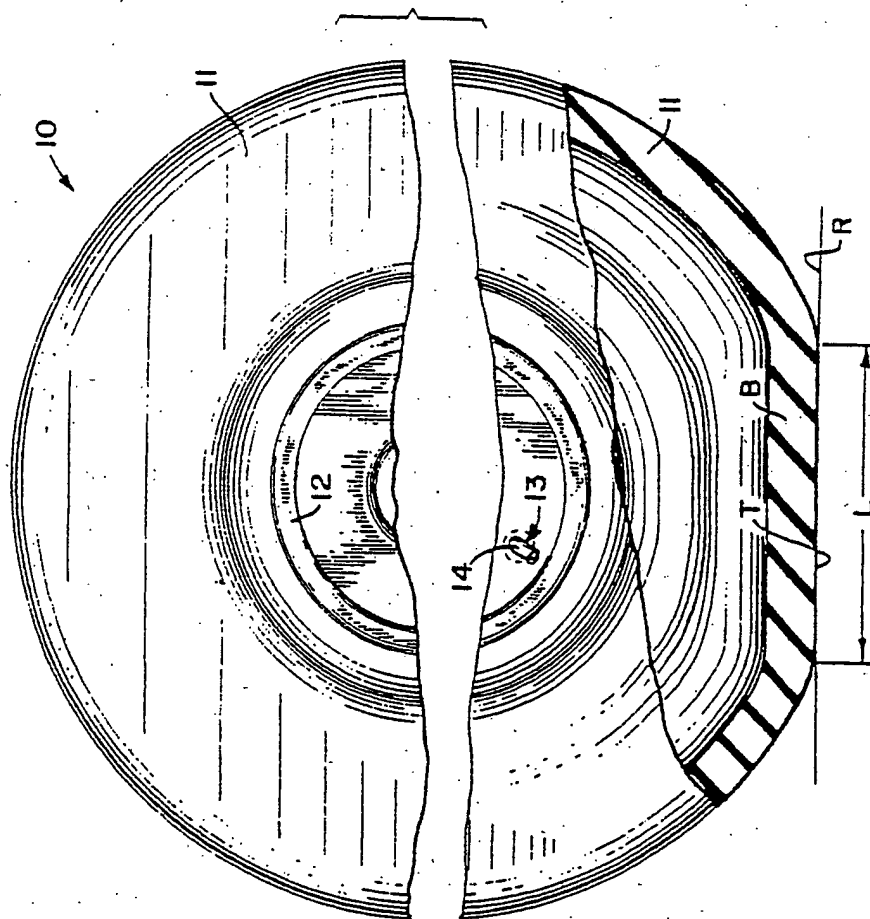


FIG. 1

PRIOR ART

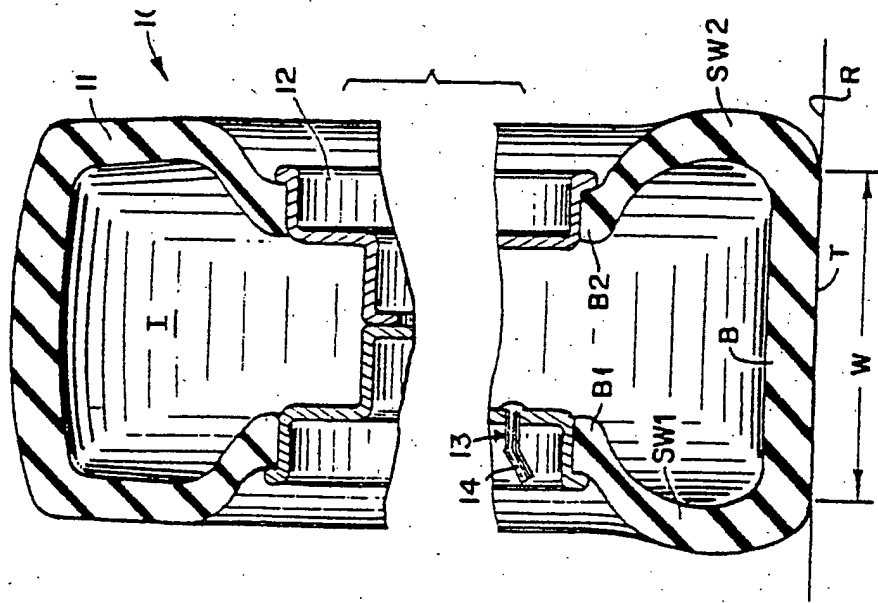


FIG. 2

PRIOR ART



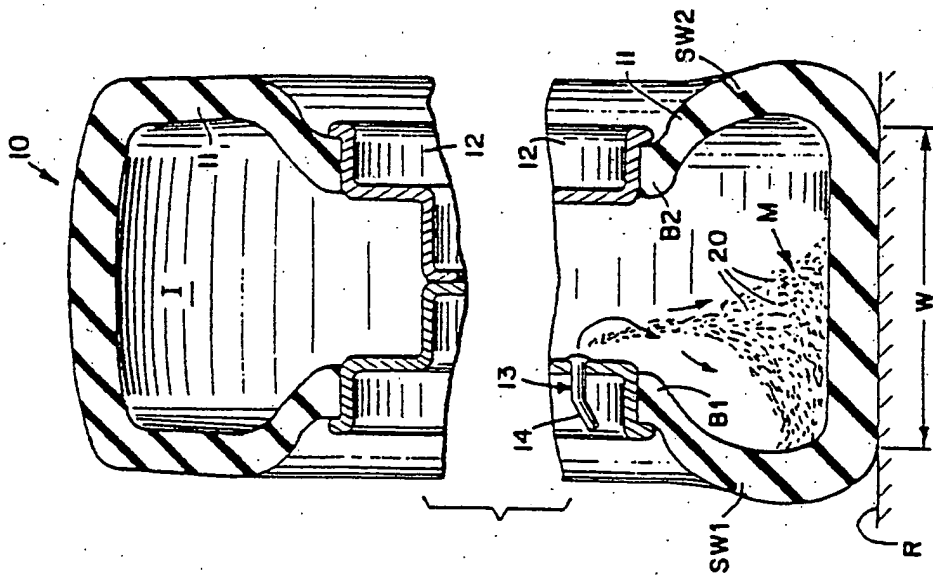


FIG. 3

PRIOR ART

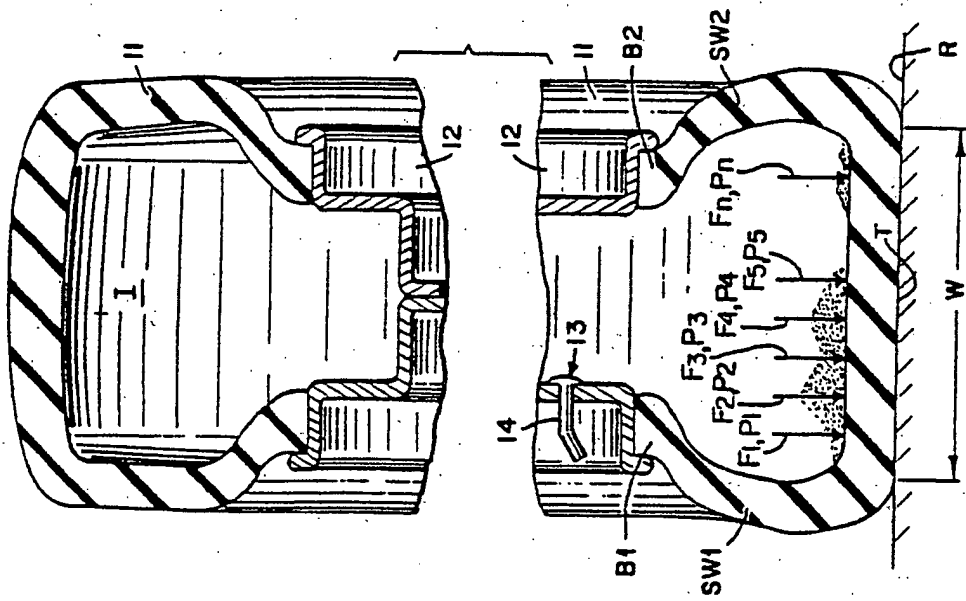


FIG. 4

PRIOR ART

30

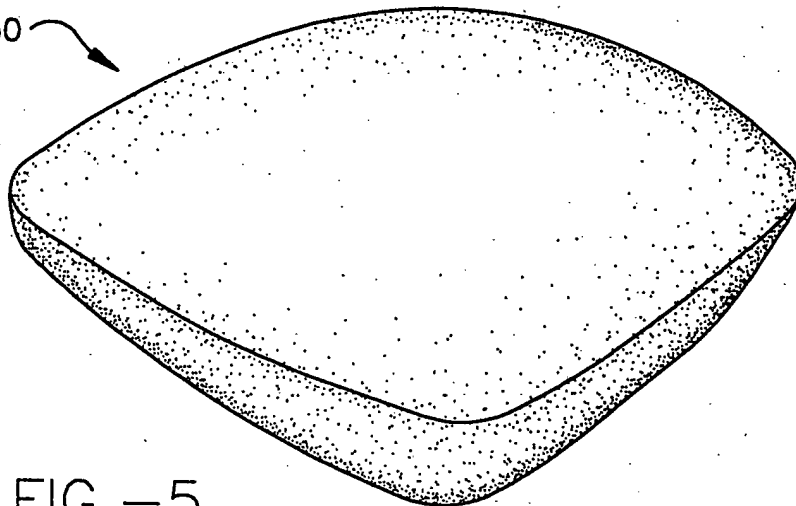


FIG. -5

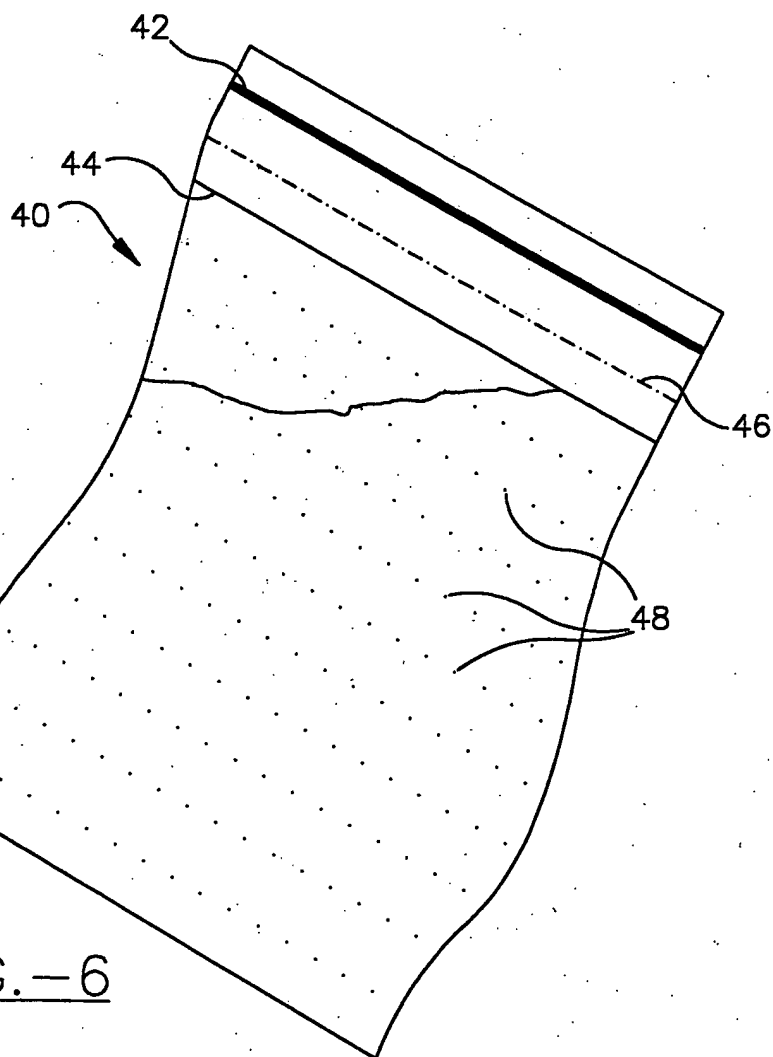


FIG. -6



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|--|------------------------|---|
| Inventor/Applicant <u>ROBERT D. FATAL, JR.</u>   |                        | Pat. No. _____  |
| Title <u>METHOD AND SYSTEM FOR TILLAGE</u>   | Filed <u>6/4/01</u>    | Ser. No. _____  |
| Attorney Docket No. <u>5238-YX-1-CON</u>   | Initials <u>RSC/AM</u> | Date <u>6/4/01</u>                                    |
| <input checked="" type="checkbox"/> <b>PATENT/DESIGN APPLICATION</b>                     |                        | <input type="checkbox"/> <b>AMENDMENT</b> (Due _____) |
| <input checked="" type="checkbox"/> New Application Transmittal                          |                        | _____ Transmittal(s)                                  |
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| <input checked="" type="checkbox"/> pgs. Specification                                   |                        | _____ For _____ month(s)                              |
| <input checked="" type="checkbox"/> pgs. Claims  |                        |   |
| <input checked="" type="checkbox"/> <u>23</u> total <u>3</u> independent                 |                        |   |
| <input checked="" type="checkbox"/> pgs. Abstract  |                        |   |
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## UNITED STATES PATENT AND TRADEMARK OFFICE

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| APPLICATION NUMBER | FILING DATE | GRP ART UNIT | FIL FEE REC'D | ATTY. DOCKET NO   | DRAWINGS | TOT CLAIMS | IND CLAIMS |
|--------------------|-------------|--------------|---------------|-------------------|----------|------------|------------|
| 09/873,872         | 06/04/2001  | 3726         | 382           | 5838-YY-1-<br>CON | 3        | 23         | 3          |

CONFIRMATION NO. 4552

## FILING RECEIPT



\*OC000000006377812\*

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Twin Oaks Estate  
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Akron, OH 44313-7188

Date Mailed: 08/02/2001

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

## Applicant(s)

Robert D. Fogal SR., Chambersburg, PA;

## Domestic Priority data as claimed by applicant

THIS APPLICATION IS A CON OF 09/310,594 05/12/1999 PAT 6,249,971  
WHICH CLAIMS BENEFIT OF 60/085,163 05/12/1998

## Foreign Applications

If Required, Foreign Filing License Granted 08/02/2001

Projected Publication Date: 11/08/2001

Non-Publication Request: No

Early Publication Request: No

\*\* SMALL ENTITY \*\*

## Title

Method and system for tire/whell disturbance compensation

Preliminary Class

029

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Data entry by : BETEMARIAM, TIRUAYENET

Team : OIPE

Date: 08/02/2001

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

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- The articles such as "a," "an" and "the" are not included as the first words in the title of an application. They are considered to be unnecessary to the understanding of the title.
- The words "new," "improved," "improvements in" or "relating to" are not included as first words in the title of an application because a patent application, by nature, is a new idea or improvement.
- The title may be truncated if it consists of more than 500 characters (letters and spaces combined).
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Assistant Commissioner for Patents  
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Fogal, Sr., Robert D.

Application No.: 09/873,872

Group No.: 3726

Filed: June 4, 2001

Examiner: Not Assigned

For: METHOD AND SYSTEM FOR TIRE/WHEEL DISTURBANCE COMPENSATION

Assistant Commissioner for Patents  
Washington, D.C. 20231

TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT  
WITHIN THREE MONTHS OF FILING OR  
BEFORE MAILING OF FIRST OFFICE ACTION (37 C.F.R. section 1.97(b))

IDENTIFICATION OF TIME OF FILING THE ACCOMPANYING  
INFORMATION DISCLOSURE STATEMENT

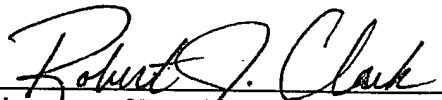
The information disclosure statement submitted herewith is being filed within three months of the filing date of the application or date of entry into the national stage of an international application or before the mailing date of a first Office action on the merits, whichever event occurs last. 37 C.F.R. section 1.97(b).

Date: October 24, 2001

Reg. No.: 45,835

Tel. No.: 330-864-5550

Customer No.: 021324

  
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Signature of Practitioner

Robert J. Clark  
Hahn, Loeser & Parks, LLP  
(formerly Oldham & Oldham Co., LPA)  
1225 West Market Street  
Akron, OH 44313-7188

CERTIFICATE OF MAILING/TRANSMISSION (37 C.F.R. section 1.8(a))

I hereby certify that, on the date shown below, this correspondence is being:

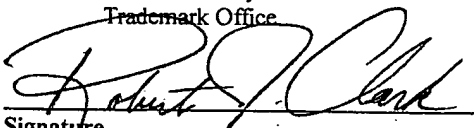
MAILING

- ☒ deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

Date: October 24, 2001

FACSIMILE

- ☐ transmitted by facsimile to the Patent and Trademark Office

  
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Signature

Robert J. Clark  
\_\_\_\_\_  
(type or print name of person certifying)

(Transmittal of Information Disclosure Statement Within Three Months of Filing or Before Mailing of First Office Action--page 1 of 1)



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**Inventor:** Robert D. Fogal, Sr.                      **Examiner:** Unknown  
**Serial No.:** 09/873,872                              **Art Unit:** 3726  
**Filed:** June 4, 2001                                  **Date:** October 24, 2001

**For:** **METHOD AND SYSTEM FOR TIRE/WHEEL DISTURBANCE  
COMPENSATION**

**To:** *The Honorable Commissioner  
of Patents and Trademarks  
Washington, D.C. 20231*

**INFORMATION DISCLOSURE STATEMENT  
UNDER 37 C.F.R. § 1.97**

This Information Disclosure Statement is filed within three months of the filing date of this application or before the mailing of an Office Action on the merits, whichever event occurs last, and therefore is considered timely under 37 CFR §1.97(b).


According to the terms of 37 CFR §1.97(g), this Information Disclosure Statement shall not be construed as a representation that a search has been made, an admission that the information cited is, or is considered to be, material to patentability or that no other material information exists.

The filing of this Information Disclosure Statement Under 37 C.F.R. §1.97 shall not be construed as an admission against interest in any manner. Notice of January 9, 1992, 1135 O.G. 13, at 25. This Information Disclosure Statement is made to comply with the duty of candor imposed on all individuals associated with the filing or prosecution of this patent application, as defined by 37 CFR §1.56(c).

A list of fourteen (14) references cited by the applicant is enclosed on the PTO/SB/08A and PTO/SB/08B (substitute PTO-1449) forms, which are attached and made a part thereof. Copies of nine (9) cited references are not enclosed, but were submitted previously with United States patent application 09/310,594 filed May 12, 1999, now issued as patent number 6,249,971, in Information Disclosure Statement filed September 24, 1999, and Supplemental Information Disclosure Statement filed November 27, 2000. Copies of four (4) references cited in PCT International Search Report for International Application No. PCT/US00/12977 dated August 14, 2000, (2,080,227; 2,909,389; 4,179,162; and 4,269,451), along with a copy of the Search Report are enclosed.

The foregoing Information Disclosure Statement Under 37 C.F.R. §1.97 is based on information contained in the undersigned attorney's file as of the filing date of this statement and is inclusive of the best information known to the undersigned as of that date. Prompt consideration of the Information Disclosure Statement Under 37 C.F.R. §1.97 and the references cited therein by the Examiner is respectfully requested.

Respectfully submitted,  
HAHN, LOESER & PARKS, LLP  
(formerly Oldham & Oldham Co., LPA)

  
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Facsimile No.: (330) 864-7986

Attorney Docket No. 5838-YY-1-CON

October 24, 2001

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|--|----------------------|---|---|--------------------|------------|-------------|------------|----------------------|----------------------|----------------|------|---------------|--------------|------------------------|---------------|
| Substitute for form 1449A/PTO<br><br><h2 style="text-align: center;">INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</h2> <p style="text-align: center;">(use as many sheets as necessary)</p> |                      | <h3 style="text-align: center;">Complete if Known</h3> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Application Number</td> <td>09/873,872</td> </tr> <tr> <td>Filing Date</td> <td>06/04/2001</td> </tr> <tr> <td>First Named Inventor</td> <td>Robert D. Fogal, Sr.</td> </tr> <tr> <td>Group Art Unit</td> <td>3726</td> </tr> <tr> <td>Examiner Name</td> <td>Not Assigned</td> </tr> <tr> <td>Attorney Docket Number</td> <td>5838-YY-1-CON</td> </tr> </table> |   | Application Number | 09/873,872 | Filing Date | 06/04/2001 | First Named Inventor | Robert D. Fogal, Sr. | Group Art Unit | 3726 | Examiner Name | Not Assigned | Attorney Docket Number | 5838-YY-1-CON |
| Application Number   | 09/873,872           |   |   |                    |            |             |            |                      |                      |                |      |               |              |                        |               |
| Filing Date  | 06/04/2001           |   |   |                    |            |             |            |                      |                      |                |      |               |              |                        |               |
| First Named Inventor   | Robert D. Fogal, Sr. |   |   |                    |            |             |            |                      |                      |                |      |               |              |                        |               |
| Group Art Unit   | 3726                 |   |   |                    |            |             |            |                      |                      |                |      |               |              |                        |               |
| Examiner Name  | Not Assigned         |   |   |                    |            |             |            |                      |                      |                |      |               |              |                        |               |
| Attorney Docket Number   | 5838-YY-1-CON        |   |   |                    |            |             |            |                      |                      |                |      |               |              |                        |               |
| Sheet  | 1                    | of  | 1 |                    |            |             |            |                      |                      |                |      |               |              |                        |               |

| U.S. PATENT DOCUMENTS             |                          |                      |                                      |  |  |  |
|-----------------------------------|--------------------------|----------------------|--------------------------------------|--|--|--|
| Examiner<br>Initials <sup>1</sup> | Cite<br>No. <sup>1</sup> | U.S. Patent Document |                                      | Name of Patentee or Applicant<br>of Cited Document | Date of Publication of<br>Cited Document<br>MM-DD-YYYY | Pages, Columns, Lines,<br>Where Relevant<br>Passages or Relevant<br>Figures Appear |
|                                   |                          | Number               | Kind Code <sup>2</sup><br>(if known) |  |  |  |
|                                   | AA                       | 2,080,227            |                                      | Periat et al.                                      | 05/11/1937   |  |
|                                   | AB                       | 2,909,389            |                                      | Wilborn  | 10/20/1959   |  |
|                                   | AC                       | 3,463,551            |                                      | R. A. Clay   | 08/26/1969   |  |
|                                   | AD                       | 4,027,712            |                                      | Verdier  | 06/07/1977   |  |
|                                   | AE                       | 4,179,162            |                                      | Zarlengo   | 12/18/1979   |  |
|                                   | AF                       | 4,269,451            |                                      | Narang   | 05/26/1981   |  |
|                                   | AG                       | 5,073,217            |                                      | Fogal  | 12/17/1991   |  |
|                                   | AH                       | 5,237,505            |                                      | Beebe  | 08/17/1993   |  |
|                                   | AI                       | 5,386,857            |                                      | Fogal, Sr. et al.                                  | 02/07/1995   |  |
|                                   | AJ                       | 5,472,023            |                                      | Fogal, Sr. et al.                                  | 12/05/1995   |  |
|                                   | AK                       | 5,766,501            |                                      | Heffernan et al.                                   | 06/16/1998   |  |
|                                   | AL                       | 6,128,952            |                                      | LeBlanc  | 10/10/2000   |  |
|                                   | AM                       | 6,129,797            |                                      | Heffernan et al.                                   | 10/10/2000   |  |
|                                   |                          |                      |                                      |  |  |  |
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| FOREIGN PATENT DOCUMENTS          |                          |                         |                     |                                      |  |  |  |                |
|-----------------------------------|--------------------------|-------------------------|---------------------|--------------------------------------|--|--|--|----------------|
| Examiner<br>Initials <sup>1</sup> | Cite<br>No. <sup>1</sup> | Foreign Patent Document |                     |                                      | Name of Patentee or<br>Applicant of Cited Document | Date of Publication of<br>Cited Document<br>MM-DD-YYYY | Pages, Columns, Lines,<br>Where Relevant<br>Passages or Relevant<br>Figures Appear | T <sup>6</sup> |
|                                   |                          | Office <sup>3</sup>     | Number <sup>4</sup> | Kind Code <sup>5</sup><br>(if known) |  |  |  |                |
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| Examiner<br>Signature | Date<br>Considered |
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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Substitute for form 1449B/PTO

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

1

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**Complete if Known**

Application Number

09/873.872

Filing Date

|              |            |
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| 05/01/95,872 | 06/04/2001 |
|--------------|------------|

**First Named Inventor**

|                      |
|----------------------|
| Robert D. Fogal, Sr. |
|----------------------|

Group Art Unit

3726

**Examiner Name**

|      |              |
|------|--------------|
| 3720 | Not Assigned |
|------|--------------|

Attorney Docket Number

5838-YY-1-CON

**OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS**

[illegible]

Examiner  
Signature

Date \_\_\_\_\_

**Considered**

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<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

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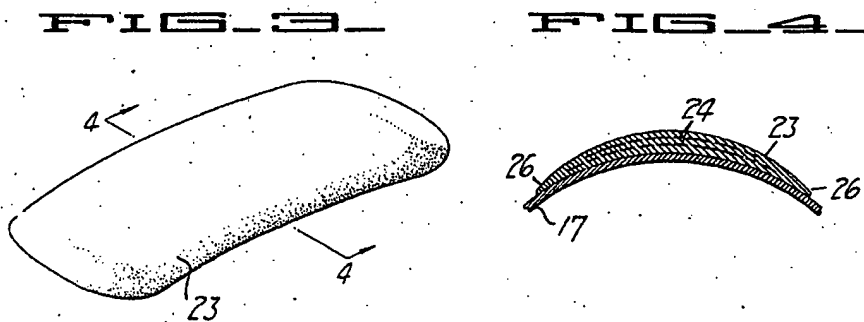
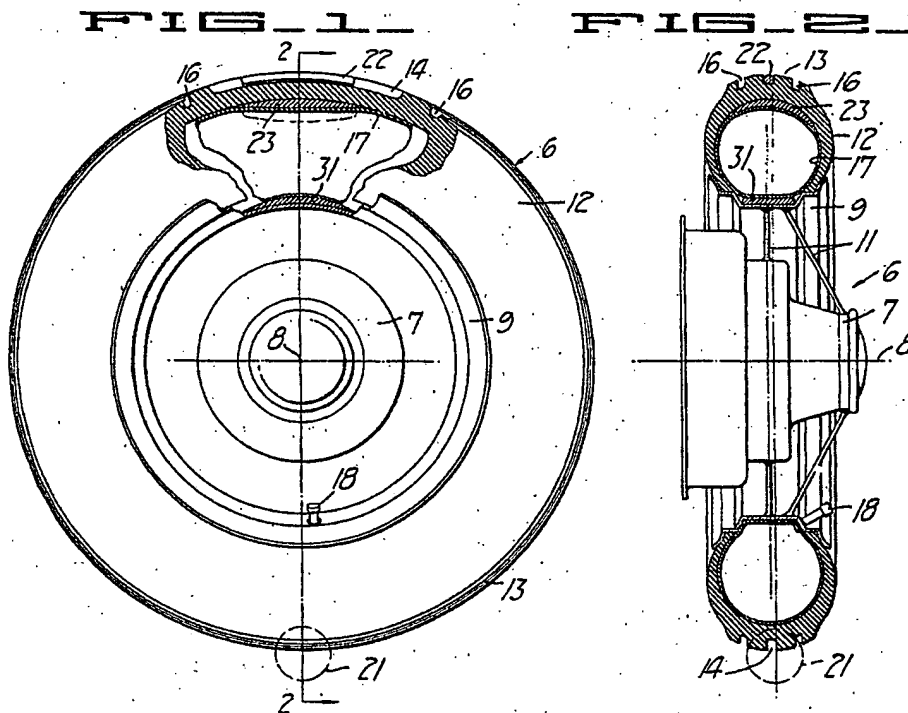
May 11, 1937.

M. PERIAT ET AL

2,080,227

WHEEL BALANCER

Filed Sept. 23, 1935



INVENTORS  
Marcel Periat  
Roscoe E. Burke

BY

Marcel Lothrop  
ATTORNEY.

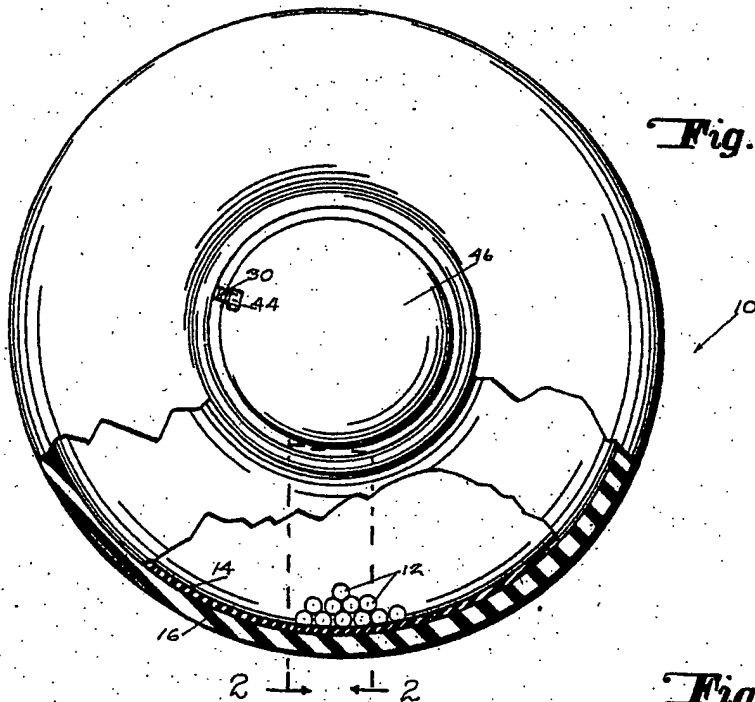
Oct. 20, 1959

J. C. WILBORN  
AUTOMATIC WHEEL BALANCER

2,909,389

Filed Nov. 18, 1954

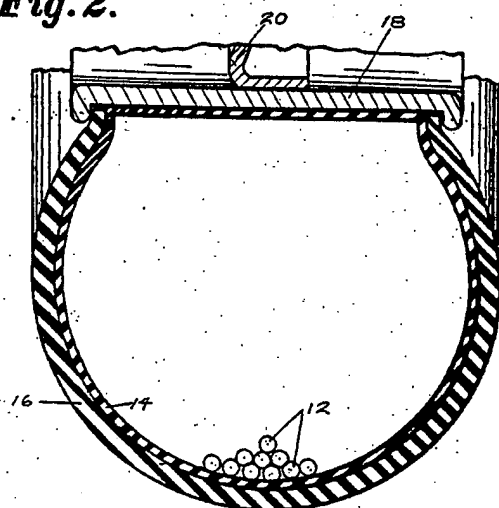
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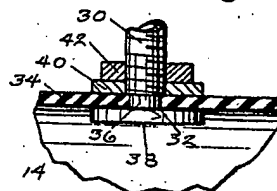
**Fig. 3.**



**Fig. 2.**



**Fig. 4.**



INVENTOR.  
**J.C. Wilborn**  
BY *Arthur H. Sturges,*  
Attorney.

# United States Patent [19]

Zarlengo

Best Available Copy

[11]

4,179,162

[45]

Dec. 18, 1979

[54] DYNAMIC WHEEL BALANCING SYSTEM

[76] Inventor: Dominic A. Zarlengo, 3025 W. Scott Pl., Denver, Colo. 80211

[21] Appl. No.: 854,594

[22] Filed: Nov. 25, 1977

[51] Int. Cl.<sup>2</sup> ..... B60B 13/00

[52] U.S. Cl. .... 301/5 BA

[58] Field of Search ..... 301/5 B, 5 BA;  
152/330 R; 74/573 R, 573 F; 295/6; 241/292;  
51/169

[56]

## References Cited

### U.S. PATENT DOCUMENTS

|           |         |         |       |           |
|-----------|---------|---------|-------|-----------|
| 2,242,430 | 5/1941  | Kraft   | ..... | 301/4 B X |
| 2,695,047 | 11/1954 | Ruck    | ..... | 301/5 BA  |
| 2,909,389 | 10/1959 | Wilborn | ..... | 301/5 BA  |
| 3,463,551 | 8/1969  | Clay    | ..... | 301/5 BA  |

|           |         |           |       |            |
|-----------|---------|-----------|-------|------------|
| 3,464,738 | 9/1969  | Pierce    | ..... | 301/5 BA   |
| 3,913,980 | 10/1975 | Cobb, Jr. | ..... | 301/5 BA   |
| 4,060,009 | 11/1977 | Wyman     | ..... | 301/5 BA X |

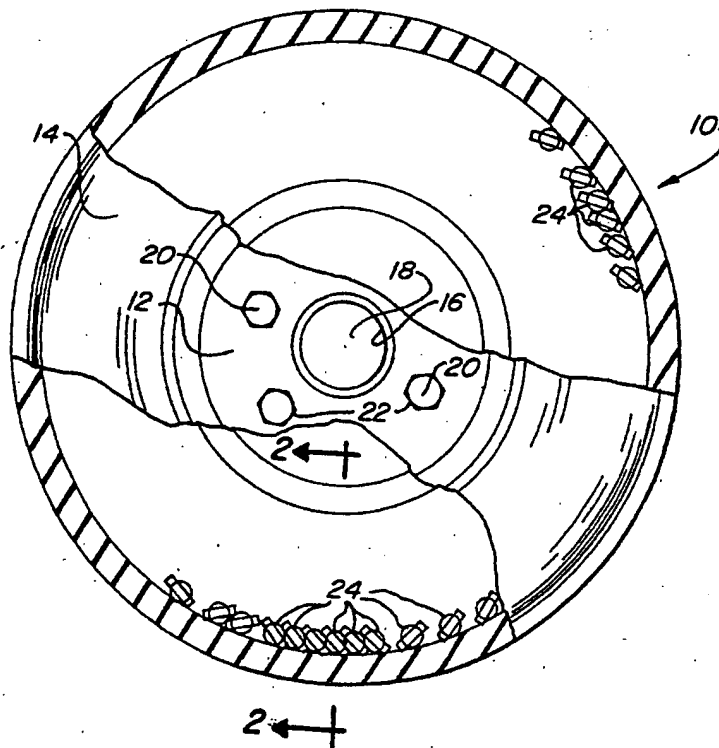
Primary Examiner—Charles A. Marmor  
Attorney, Agent, or Firm—Gary M. Polumbus

[57]

## ABSTRACT

A system for dynamically and automatically balancing vehicle tires includes a plurality of mobile mass elements loosely positioned within the tire of a wheel-tire assembly so as to be mobile therewithin. Inherent physical characteristics of the mass elements in the form of variations in the shape and composition of the mass elements and/or the interior of the wheel-tire assembly inhibit movement of the mass elements after they have been automatically positioned through rotation of the wheel-tire assembly to balance the wheel-tire assembly.

2 Claims, 10 Drawing Figures



## [54] WHEEL AND TIRE BALANCING SYSTEM

[76] Inventor: Rajendra K. Narang, 1525 Bonnie Rd., Macedonia, Ohio 44056

[21] Appl. No.: 931,205

[22] Filed: Aug. 4, 1978

## Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 807,371, Jun. 17, 1977, abandoned.

[51] Int. Cl.<sup>3</sup> ..... B60B 13/00

[52] U.S. Cl. .... 301/5 B; 301/5 BA; 74/573 R; 74/573 F

[58] Field of Search ..... 301/5 B, 5 BA, 6 WB, 301/37 ST; 74/573 R, 573 F; 51/169; 241/292; 295/6; 152/330 R, 236, 237

## [56] References Cited

## U.S. PATENT DOCUMENTS

|           |         |                  |           |
|-----------|---------|------------------|-----------|
| 1,486,055 | 3/1924  | Stranahan et al. | 301/5 B   |
| 1,677,855 | 7/1928  | Swain            | 301/5 B   |
| 1,769,903 | 7/1930  | Baker            | 301/6 WB  |
| 2,529,099 | 11/1950 | Olbrys           | 301/5 B   |
| 2,632,673 | 3/1953  | Pfeiffer         | 74/573 X  |
| 2,659,243 | 11/1953 | Darrieus         | 74/573    |
| 2,915,335 | 12/1959 | Barnes           | 301/37 ST |
| 3,002,388 | 10/1961 | Baleman          | 301/5 B X |
| 3,191,997 | 6/1965  | Colvert          | 301/5 BA  |
| 3,462,198 | 8/1969  | Onufer           | 301/5 BA  |
| 3,464,738 | 9/1969  | Pierce           | 301/5 BA  |

## FOREIGN PATENT DOCUMENTS

|         |         |                      |          |
|---------|---------|----------------------|----------|
| 1912951 | 9/1970  | Fed. Rep. of Germany | 301/5 B  |
| 755447  | 9/1933  | France               | 301/5 B  |
| 1235022 | 5/1960  | France               | 301/5B   |
| 528738  | 6/1965  | Italy                | 301/5 B  |
| 13139   | of 1895 | United Kingdom       | 301/5 B  |
| 1066818 | 4/1967  | United Kingdom       | 301/5 BA |

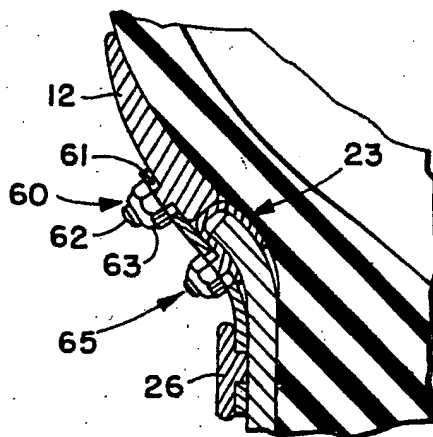
Primary Examiner—Charles A. Marmor

Attorney, Agent, or Firm—Maky, Renner, Otto &amp; Boisselle

## [57] ABSTRACT

A balancing system for a wheel having a tire mounted on the rim thereof consists of at least one and as many as three balancing components including rim mounted weights, an annular member including a balancing medium positioned within the tire, and a shock absorber between the wheel and brake drum. The weights are relatively narrow in width and elongated in length and are mounted on the rim to extend predominantly radially of the tire sidewall rather than circumferentially. The annular member is suspended from the tire within the radially outer portion of the air cavity of the tire and during rotation of the tire automatically corrects for imbalance by circumferential migration of the balancing medium and/or annular member to the area of imbalance and/or by radial displacement of the annular member.

15 Claims, 10 Drawing Figures





## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

|  |   |  |
|--|---|--|
| Applicant's or agent's file reference<br>5838-YY-PCT | <b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below. |  |
| International application No.<br>PCT/US00/12977      | International filing date (day/month/year)<br>11 MAY 2000   | (Earliest) Priority Date (day/month/year)<br>12 MAY 1999 |
| Applicant<br>INTERNATIONAL MARKETING, INC.           |   |  |

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (See Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No. 6

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☐ None of the figures.



# UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS  
UNITED STATES PATENT AND TRADEMARK OFFICE  
WASHINGTON, D.C. 20231  
[www.uspto.gov](http://www.uspto.gov)

| APPLICATION NUMBER | FILING DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO. |
|--------------------|-------------|-----------------------|------------------|
| 09/873,872         | 06/04/2001  | Robert D. Fogal SR.   | 5838-YY-1-CON    |

**CONFIRMATION NO. 4552**



\*OC000000007217590\*

Robert J. Clark  
Oldham & Oldham Co., L.P.A.  
Twin Oaks Estate  
1225 West Market Street  
Akron, OH 44313-7188

**Title:** Method and system for tire/whell disturbance compensation

**Publication No.** US-2001-0052185-A1  
**Publication Date:** 12/20/2001

Date Mailed: 12/20/2001

## NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at [www.uspto.gov](http://www.uspto.gov). The direct link to access the publication is currently <http://www.uspto.gov/patft/>.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Crystal Gateway 4, Room 335, Washington, D.C. 20231, or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at [www.uspto.gov](http://www.uspto.gov) using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently <http://pair.uspto.gov/>. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at (703) 305-3028.



# UNITED STATES PATENT AND TRADEMARK OFFICE

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www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/873,872      | 06/04/2001  | Robert D. Fogal SR.  | 5838-YY-1-CON       | 4552             |

7590 01/02/2002

Robert J. Clark  
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1225 West Market Street  
Akron, OH 44313-7188

EXAMINER

NGUYEN, TRINH T

ART UNIT

PAPER NUMBER

3726

DATE MAILED: 01/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/873,872

Applicant(s)

Fogal

Examiner

Trinh Nguyen

Art Unit

3726

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Jun 4, 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some\* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 20) ☐ Other:

Art Unit:

## DETAILED ACTION

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-23 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-29 of U.S. Patent No. 6,249,971. Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matters in the instant application are claimed as method claims as similar to the claims of the cited patent and the differences therebetween would have been obvious.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Fogal (US 5,073,217).

Fogal teaches a method of introducing a compensating material into a tire/wheel assembly wherein the method comprising the steps of: providing a tire (11); providing at least one self-contained batch (M) of compensating material (20); transferring the self-contained batch of compensating material into an interior of the tire; and mounting the tire on a wheel to form a tire/wheel assembly (10), wherein compensating material is released from the self-contained batch such that the compensating material is able to freely flow withing the tire/wheel assembly (see lines 32-34 of col. 5, and Figures 3-5).

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Narang (US 4,269,451).

Narang teaches a method of introducing a compensating material into a tire/wheel assembly wherein the method comprising the steps of: providing a tire (T); providing at least one self-contained batch (35) of compensating materials (37 & 40); transferring the self-contained batch of compensating material into an interior of the tire; and mounting the tire on a wheel to form a tire/wheel assembly, wherein upon rotation of the tire the compensating material is dispersed from the self-contained batch such that the compensating material is able to freely flow withing the tire/wheel assembly (see Figures 5-7).

Art Unit:

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and are cited on form PTO-892 encloses herewith.

Official documents related to the instant application may be submitted to the Technology Center 3700 mail center by facsimile at (703) 305-3579/3580.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-1148.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trinh Nguyen whose telephone number is (703) 306-9082.

*DC A R h*  
*Dec 3726*

ttn

December 26, 2001

Attachment for PTO-948 (Rev. 03/01, or earlier)  
6/18/01

The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may **NOT** be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made other than correction of informalities, unless the examiner has approved the proposed changes.

Timing of Corrections

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a).

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.



|                                   |                                  |  |             |
|-----------------------------------|----------------------------------|--|-------------|
| <b>Notice of References Cited</b> | Applicant/Patent<br><b>Fogal</b> | Application/Control No.<br><b>09/873,872</b> |             |
|                                   | Examiner<br><b>Trinh Nguyen</b>  | Art Unit<br><b>3726</b>                      | Page 1 of 1 |

### U.S. PATENT DOCUMENTS

|   | Document Number<br>Country Code-Number-Kind Code | Date<br>MM-YYYY <sup>1</sup> | Name             | Classification <sup>2</sup> |      |
|---|--|------------------------------|------------------|-----------------------------|------|
| A | 4,269,451  | 5/1981                       | Narang           | ----                        | ---- |
| B | 5,073,217  | 12/1991                      | Fogal            | ----                        | ---- |
| C | 5,766,501  | 6/1998                       | Heffernan et al. | ----                        | ---- |
| D | 4,179,162  | 12/1979                      | Zarlengo         | ----                        | ---- |
| E |  |                              |                  |                             |      |
| F |  |                              |                  |                             |      |
| G |  |                              |                  |                             |      |
| H |  |                              |                  |                             |      |
| I |  |                              |                  |                             |      |
| J |  |                              |                  |                             |      |
| K |  |                              |                  |                             |      |
| L |  |                              |                  |                             |      |
| M |  |                              |                  |                             |      |

### FOREIGN PATENT DOCUMENTS

|   | Document Number<br>Country Code-Number-Kind Code | Date<br>MM-YYYY <sup>1</sup> | Country | Name | Classification <sup>2</sup> |  |
|---|--|------------------------------|---------|------|-----------------------------|--|
| N |  |                              |         |      |                             |  |
| O |  |                              |         |      |                             |  |
| P |  |                              |         |      |                             |  |
| Q |  |                              |         |      |                             |  |
| R |  |                              |         |      |                             |  |
| S |  |                              |         |      |                             |  |
| T |  |                              |         |      |                             |  |

### NON-PATENT DOCUMENTS

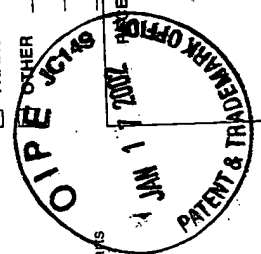
|   | Include, as applicable: Author, Title, Date, Publisher, Edition or Volume, Pertinent Pages |
|---|--|
| U |  |
| V |  |
| W |  |
| X |  |

\* A copy of this reference is not being furnished with this Office action. See MPEP § 707.05(a). <sup>1</sup> Dates in MM-YYYY format are publication dates. <sup>2</sup> Classifications may be U.S. or foreign.

Attorney Document No. 5838-XX-1-Can Initials RSC/AMM Date 10/24/01  
Inventor/Applicant VELT FOGAL, SR. at No. 09/893,872  
Title METHOD AND SYSTEM FOR TIRE/WHEEL Filed 6/4/01

☐ PATENT/DESIGN APPLICATION  
☐ AMENDMENT (Date \_\_\_\_\_) Extension of Time For \_\_\_\_\_ Month(s)  
☒ INFORMATION DISCLOSURE STATEMENT  
☒ PTO/SB/08A 5 Refs.  
☐ ASSIGNMENT \_\_\_\_\_ Recordation  
☐ CHECK(s) in Amount \$ \_\_\_\_\_  
☐ TRANSMITTAL \_\_\_\_\_ New Application

☐ OTHER  
Declaration/Power of Attorney  
Small Entity Status  
Copy of Notice to File Missing Parts  
PCT Request  
Fee Calculation Sheet  
Demand for Prel. Examination  
Base Issue Fee  
Supplemental Declaration



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Fogal, Sr., Robert D.

Application No.: 09/873,872

Group No.: 3726

Filed: 06/04/2001

Examiner: Nguyen, T.

For: METHOD AND SYSTEM FOR TIRE/WHEEL DISTURBANCE COMPENSATION

Assistant Commissioner for Patents  
Washington, D.C. 20231

AMENDMENT TRANSMITTAL

1. Transmitted herewith is an amendment for this application.

STATUS

2. Applicant is a small entity. A statement was already filed.

EXTENSION OF TERM

3. The proceedings herein are for a patent application and the provisions of 37 C.F.R. 1.136 apply. Applicant petitions for an extension of time under 37 C.F.R. 1.136 (fees: 37 C.F.R. 1.17(a)(1)-(4)) for one month:

Fee: \$55.00

---

**CERTIFICATION UNDER 37 C.F.R. 1.8(a) and 1.10\***  
(When using Express Mail, the Express Mail label number is *mandatory*;  
*Express Mail certification is optional.*)

I hereby certify that, on the date shown below, this correspondence is being:

MAILING

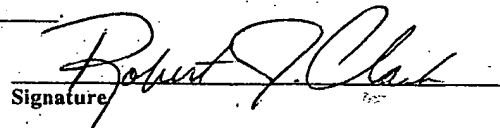
- ☒ deposited with the United States Postal Service in an envelope addressed to the Assistant Commissioner for Patents, Washington D.C. 20231  
37 C.F.R. § 1.8(a)
- ☒ with sufficient postage as first class mail.
- ☐ as "Express Mail Post Office to Addressee"  
Mailing Label No. \_\_\_\_\_ (mandatory)

TRANSMISSION

- ☐ facsimile transmitted to the Patent and Trademark Office, (703) \_\_\_\_\_

Date: May 2, 2002

Signature



Robert J. Clark

(type or print name of person certifying)

\* Only the date of filing (1.6) will be the date used in a patent term adjustment calculation, although the date on any certificate of mailing or transmission under 1.8 continues to be taken into account in determining timeliness. See 1.703(f). Consider "Express Mail Post Office to Addressee" (1.10) or facsimile transmission (1.6(d)) for the reply to be accorded the earliest possible filing date for patent term adjustment calculations.

## FEE FOR CLAIMS

4. The fee for claims (37 C.F.R. 1.16(b)-(d)) has been calculated as shown below:

|   | (Col. 1)                                  | (Col. 2)                              | (Col. 3)         | SMALL ENTITY        |               |  |      |
|---|---|---------------------------------------|------------------|---------------------|---------------|--|------|
|   | CLAIMS<br>REMAINING<br>AFTER<br>AMENDMENT | HIGHEST NO.<br>PREVIOUSLY<br>PAID FOR | PRESENT<br>EXTRA | RATE                | ADDIT.<br>FEE |  |      |
| TOTAL                                     | 17  | - 23                                  | = 0              | x \$ 9.00           | = \$          |  | 0.00 |
| INDEP.                                    | 3   | - 3                                   | = 0              | x \$ 42.00          | = \$          |  | 0.00 |
| FIRST PRESENTATION OF MULTIPLE DEP. CLAIM |   |                                       |                  | + \$ 0.00           | = \$          |  | 0.00 |
|   |   |                                       |                  | TOTAL<br>ADDIT. FEE | \$            |  | 0.00 |

No additional fee for claims is required.

## FEE PAYMENT

5. Attached is a check in the sum of \$55.00.

A duplicate of this paper is attached.

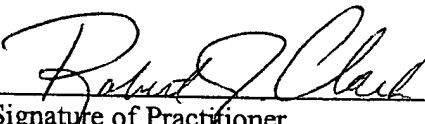
## FEE DEFICIENCY

6. An additional extension and/or fee is required, charge Account No. 15-0450.

An additional fee for claims is required, charge Account No. 15-0450.

Date: May 2, 2002

Reg. No.: 45,835  
Tel. No.: 330-864-5550  
Customer No.: 021324

  
Signature of Practitioner  
Robert J. Clark  
Hahn, Loeser & Parks, LLP  
Twin Oaks Estate  
1225 West Market Street  
Akron, OH 44313-7188

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Fogal, Sr., R. Examiner: Nguyen, T.  
Serial No: 09/873,872 Art Unit: 3726  
Filed: June 4, 2001 Date: May 2, 2002  
For: METHOD AND SYSTEM FOR TIRE/WHEEL DISTURBANCE  
COMPENSATION

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**RESPONSE TO OFFICE ACTION**

This paper is filed responsive to the Office Action mailed January 2, 2002. As this response is filed within four months of the mailing date, a one month extension fee is believed to be due at this time and is enclosed herein. No fees are believed to be due for claims in excess of the three independent claims and the twenty-three total claims already paid for. If any fees are required, please consider this a petition for payment of them and charge them to Deposit Account 15-0450. As this response is believed to fully comply with the Examiner's requirement, prompt action on the merits of the case is earnestly requested.

**AMENDMENTS**

In the Specification:

Please make the following amendments to the specification:

Please amend paragraph [0001] as shown:

[0001] This invention relates to a method and system for introducing a predetermined amount of a force compensating material into a wheel/tire assembly for [counteracting] equalizing radial and lateral force variations at the tire/road footprint of a pneumatic tire.

Please insert the following new paragraphs after paragraph [0005].

[0005.1] The applicant's U.S. Patent 6,249,971, entitled Method and System for Tire/Wheel Disturbance Compensation, which is hereby incorporated by reference describes such an approach to disturbance compensation. This approach is briefly described with reference to prior art FIG. 4 which illustrates the innumerable radial impact forces ( $F_n$ ) which continuously react between the road R and the tread T at the lower portion or footprint B during tire/wheel assembly rotation. There are an infinite number of such forces  $F_n$  at virtually an infinite number of locations ( $P_n$ ) across the lateral width W and the length L of the footprint B, and FIG. 4 diagrammatically illustrate five such impact forces F1-F5 at respective locations P1-P5. It is assumed that the forces F1-F5 are different from each other because of such factors as tire wear at the specific impact force location, the road condition at each impact force location, the load upon each tire/wheel assembly, etc. Thus, the least impact force is the force F1 at location P1 whereas the greatest impact force is the force F2 at location P2. Once again, these forces F1-F5 are merely exemplary of innumerable/infinite forces laterally across the tire 11 between the sidewalls SW1 and SW2 and circumferentially along the tire interior I which are created continuously and which vary as the tire/wheel assembly 10 rotates.

[0005.2] As these impact forces are generated during tire/wheel assembly rotation, the material 20 is adapted to relocate in dependency upon the location and the severity of the impact forces  $F_n$ . In the preferred embodiment, material 20 is a composition of dry, solid particles, wherein relocation of the particle mixture 20 through movement of the individual granules, powder and dust is also inversely related to the magnitude of the impact forces. For example, the greatest force  $F_1$  is at position  $P_1$ , and due to these greater forces  $F_1$ , the particle mixture 20 is forced away from the point  $P_1$  with the least amount of the particle mixture remaining at the point  $P_1$  because the load force there is the highest. Contrarily, the impact force  $F$  is the lowest at the impact force location point  $P_2$  and therefor more of the particle mixture 20 will remain there. In other words, at points of maximum or greatest impact forces ( $F_1$  in the example), the quantity of the particle mixture 20 is the least, whereas at points of minimum force impact (point  $P_2$  in the example), the quantity of particle mixture 20 is proportionately increased. This movement of material creates lift, thereby substantially equalizing the radial and lateral force variations. Accordingly, the vibrations or impact forces  $F_n$  force the particle mixture 20 to continuously move away from the higher or excessive impact areas  $F_1$  or areas of maximum imbalance  $F_1$  and toward the areas of minimum impact forces or imbalance  $F_2$ . The particle mixture 20 is moved by these impact forces  $F_n$  both laterally and circumferentially, but if a single force and a single granule of the particle mixture 20 could be isolated, so to speak, from the standpoint of cause and effect, a single granule located at a point of maximum impact force  $F_n$  would be theoretically moved 180 degrees therefrom. Essentially, with an adequate quantity of particle mixture 20, the variable forces  $F_n$  create through the impact thereof a lifting effect within the tire interior I which equalizes the radial force variation applied against the footprint until there is a total force equalization circumferentially and laterally of the complete tire/wheel

assembly 10. Thus the rolling forces created by the rotation of the tire/wheel assembly 10 in effect create the energy or force  $F_n$  which is utilized to locate the particle mixture 20 to achieve lift and force equalization and assure a smooth ride. Furthermore, due to the characteristics of the particle mixture 20, road resonance is absorbed as the tire/wheel assemblies 10 rotate.

Please amend paragraph [0006] as shown:

[0006] While the use of a compensating material introduced into the interior of the tire has been found to work effectively, either alone or in combination with other balancing techniques, a limitation has been found in how to introduce this material into the tire. In the prior approaches, [the] as depicted in FIG. 3, pulverulent material 20 deposited in mound M is suspended in an air stream and introduced into a tire through a hose line (not shown) and valve stem 14 of tire valve 13 used for inflation of a tire 11. Although such an approach works sufficiently, this method of delivery of a compensating material is in some instances an inconvenient delivery method, and may result in contamination of a work place where a wheel assembly is being balanced. This delivery system has further been utilized in the aftermarket environment to facilitate balancing of replacement tires, and no effective approach to introducing such material into a tire/wheel assembly at original manufacture has been provided.

Please amend paragraph [0033] as shown.

[0033] The particles must have a specific gravity greater than 1 so that they will move positively and as quickly as possible from one place to another in response to external force. It



has also been found that the addition of dry powder lubricant or anti-agglomerating agents can significantly increase the effectiveness of the principal particulate material. The dry lubricant acts to coat the interior surface of the tire as well as the primary particulate material particles. In this way particle-particle friction of the particulate material is reduced as is friction at the particulate particle-tire surface interface. The reduced friction allows the particulate material to respond more quickly in [counteracting] equalizing radial and lateral forces acting on the vehicle wheel assembly.

Please amend paragraph [0034] as shown.

[0034] When present in a sufficient amount the dry lubricant serves as a vehicle within which the pulverulent material may freely flow or move laterally and circumferentially within the tire. Further due to the extremely fine particle size of the lubricant, quantities of the lubricant itself may quickly move to positions within the tire in order to [counteract] equalize radial and lateral forces acting on the vehicle wheel assembly. Other anti-agglomerating agents to function in this manner are also contemplated.

Please amend paragraph [0038] as shown.

[0038] In order to introduce wheel [balancing] compensating material in the form of agglomerates into a tire in an amount sufficient to [balance] equalize radial and lateral forces of a wheel assembly, it is necessary to introduce at least one self-contained batch, and it may be necessary to introduce more than one self-contained batch, as in the form of pellets, or a single

self-contained batch, as in the form of a briquette 30. A self-contained batch is preferably sized such that it may be introduced into a tire as one batch (such as a briquette) or in a plurality of batches (such as pellets). The number of self-contained batches required to provide the desired compensation of radial and lateral force variations at the tire/road footprint will in turn be dependent on the characteristics of the tire/wheel assembly 10 as well as the characteristics of the vehicle on which the assembly is to be used. For example, the amount of compensating material required to provide the desired compensation function will increase as the size of the tire increases and as the gross vehicle weight increases. Further, it may be determined that a tire is imbalanced to a certain extent which would require a greater amount of compensating material. Other characteristics of a tire/wheel assembly, such as non-uniformity may also vary the amount of compensating material required. Thus, according to the invention, the self-contained batches of material may be formed in a variety of predetermined sizes to allow the desired amount of material to be easily chosen and introduced into the tire of a particular tire/wheel/vehicle combination simply and effectively. In general, the preferred amount of the preferred compensating material for passenger and light truck vehicles is in a range of 0.20-2.0 ounces while larger vehicles may use a larger amount, such as between 1.5-24 ounces. These amounts may vary depending on particular characteristics of the tire/wheel/vehicle. More particularly, the following ranges of the preferred compensating material are generally found to be effective for the following tire sizes. For a 13" tire/wheel, an amount of compensating material for incorporation therein may range from about 0.2-0.6 ounces. A 14" tire/wheel may require an amount of compensating material in the range from about 0.4-0.9 ounces, while a 15" tire/wheel may require between 0.8-1.4 ounces. For a 16" tire/wheel, the amount of compensating material that may be required may range from about 1.0-1.7 ounces, while a 17" tire/wheel may require

an amount in the range from about 1.2-2.0 ounces. For truck tires, the amount of compensating material that would be desired for compensating radial and lateral force variations may lie in the range between 2.0-6.0 ounces. Again, depending on the material itself as well as the characteristics of the tire/wheel/vehicle, the amount of material desired may vary. In general, the amount of material is sufficient to balance a wheel assembly and compensate for radial and lateral force variations at the footprint. Thus, as tires of any size, ranging from passenger car tires to truck tires, can be treated with a composition according to this invention for the purpose of balancing a wheel assembly and/or equalizing load forces. The amount (or weight) of powdered material per tire to be used will vary over a wide range, depending on the size of the tire and the amount that the tire is out of balance, whether this amount be expressed as a suitable range or as an optimum amount. A suitable amount of material to be used can be determined empirically, and indeed may require determination empirically, since the amount that a tire is out of balance is determined empirically.

Please amend paragraph [0045] as shown.

[0045] The compositions above described may be formed by known procedures. Pellets, briquettes and other agglomerates or extrudates according to this invention may be made of any convenient size and shape. Pellets are typically either spherical or ellipsoidal. Briquettes are typically pillow shaped as shown in Fig. 5. Extrudates are typically cylindrical. None of these shapes is critical. Size also is not critical, except that an agglomerate should be no larger than is necessary to contain wheel [balancing] compensating material sufficient to charge a given tire

size using one self-contained batch. An agglomerate can be small enough to permit charging of a plurality of self-contained batches.

Please amend paragraph [0046] as shown.

[0046] In another embodiment as shown in Fig. 6, a self-contained batch of particulate wheel [balancing] compensating material is made in the form of a bag 40 containing free flowing compensating material. A bag is also suitable as a self-containment form for liquid and liquid/solid materials. A bag is preferably made of a material that will abrade, tear or shred upon rotation of an assembled wheel. Suitable materials include generally paper and plastic. In Fig. 6, the bag 40 is designed to contain a predetermined amount of compensating material to allow shipping, handling and charging of a tire/wheel assembly without substantial loss of material, and then to break down to release the free-flowing particles or other material. In an embodiment of bag 40, a paper material may be used to form bag 40 in a conventional manner using form, fill and seal equipment. In such equipment, bag 40 is produced with an initially open top, the compensating material is placed therein, and the top is then sealed. In a particular example, a 20 lb. paper was used to form bag 40, with the edges thereof hot sealed using a 5 lb. low density polyethylene glue. Other paper weights or glues may also be suitable for a given tire/wheel assembly. Thus a bag of compensating material is self-contained in that it will retain substantially all of the material batch in the bag until the bag is transferred into a tire.

Please amend paragraph [0048] as shown.

[0048] In a further embodiment of a self-contained batch using a container such as a bag 40 for the free-flowing material, may also use perforations 48 in the bag material (whether paper or polymeric) if desired, to facilitate shredding of the bag 40 and release of the compensating material. Such perforations can be formed using conventional perforating equipment. It should be understood that any such perforations would have to be of a character to not allow the escape of material from within the bag 40 until bag 40 has been charged into a tire. The perforations, or microperforations, if any, are sufficiently small to prevent loss of wheel [balancing] compensating material through the perforation holes, but also facilitate shredding of the bag 40 upon rotation of the tire.

**In the Claims:**

Please delete claims 9, 16-20 without bias or prejudice to the subject matter contained therein.

Please amend the claims as follows:

1. (Amended) A method for introducing a compensating material into a tire/wheel assembly comprising the steps of:
  - providing a tire;
  - providing at least one [self-contained batch] bag of compensating material;
  - transferring said at least one [self-contained batch] bag of compensating material into an interior of said tire; and
  - mounting said tire on a wheel to form a tire/wheel assembly;

wherein compensating material is released from said at least one bag [self-contained batch such that said compensating material is able to freely flow within said tire/wheel assembly].

8. (Amended) The method of claim 1, wherein said bag [self-contained batch is provided in at least one device to contain said material, wherein said device] is ruptured [destroyed] to release said material.

10. (Amended) The method of claim [9] 1, wherein said at least one bag is a paper or plastic bag.

11. (Amended) The method of claim [8] 1, wherein said at least one bag [device] is adapted to release said compensating material after positioning thereof inside said tire and upon rotation of said tire/wheel assembly.

12. (Amended) The method of claim [8] 1, wherein said at least one bag [device] is made of a material which will break down upon being rotated within said tire/wheel assembly to release said compensating material.

13. (Amended) The method of claim [9] 1, wherein said at least one bag has a plurality of perforations therein.

14. (Amended) The method of claim [9] 1, wherein said bag has a primary seal and a secondary seal, wherein said primary seal is a relatively stronger seal than said secondary seal.

22. (Amended) A method of compensating for radial and lateral force variations at the tire/road footprint of a tire/wheel assembly comprising the steps of:

providing a predetermined amount of compensating material formed in at least one briquette [self-contained batch in a form preventing said compensating material from freely flowing apart from self-contained batch],

putting said at least one briquette [self-contained batch] into an interior of said tire,

mounting said tire on a wheel to form a tire/wheel assembly,

[mounting said tire/wheel assembly on a vehicle,]

rotating said tire/wheel assembly thereby breaking up said at least one briquette wherein said compensating material [is released from said self-contained batch and] disperses within said tire/wheel assembly [to provide compensation of said force variations].

23. (Amended) A method for introducing a compensating material into a tire/wheel assembly comprising the steps of:

providing a tire;

providing at least one bag [self-contained batch] of compensating material[, said at least one self-contained batch comprising at least one bag containing a predetermined amount of said compensating material],

placing said at least one bag into an interior of said tire;

mounting said tire on a wheel forming a tire/wheel assembly; and

[mounting said tire/wheel onto a vehicle;]

inflating said tire/wheel assembly whereby said at least one bag becomes ruptured to  
release said compensating material within said tire/wheel assembly[;

wherein said predetermined amount of said compensating material is directly related the  
size of said tire].



## **REMARKS**

Claims 1-23 were pending in this matter at the time of the Office Action. As a result of this response, claims 9, and 16-20 have been cancelled, claims 1, 8, 10-14, and 22-23 have been amended. The response below is made in view of the claims as they stand after these changes.

### **Specification**

The specification has been amended to add material from the parent application and as such, no new matter has been added to the specification.

### **Double Patenting**

The Examiner has rejected claims 1-23 based on nonstatutory double patenting. However, all remaining claims have now been amended and the double patenting rejection should be reconsidered.

### **Claim Rejections – 35 USC §102**

The Examiner has rejected claim 1 under 35 USC §102(b) as being anticipated by Fogal (U.S. Patent Number 5,073,217) who is also the Applicant in the present application. The Examiner states that Fig. 3 of Fogal '217 shows a self-contained batch M.

The Applicant traverses the Examiner's argument for at least the following reasons. Element M does not represent a self-contained batch, but rather a pile of free-flowing pulverulent particles. Fig. 3 of Fogal '217 shows pulverulent material 20 flowing through valve stem 14 and deposited in a mound M, or pile, onto the interior I of a tire T. In the present application at page 3, lines 6-14, as originally filed and as amended, the Applicant discusses this prior art method

and the limitations of this prior approach which are overcome by the present invention. Mound M is a pile of particles of a pulverulent material. The particles are not in a bag as required by claim 1, as amended. Accordingly, withdrawal of the rejection of claim 1 is respectfully requested.

The Examiner has rejected claim 1 under 35 USC §102(b) as being anticipated by Narang (U.S. Patent Number 4,269,451). The Examiner states that Narang '451 teaches a method comprising the steps of compensating material in the form of liquid 37 and balls 40 disposed within a self-contained batch 35.

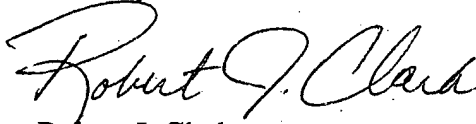
The Applicant traverses the Examiner's rejection for at least the following reasons. Claim 1, as amended, requires that the compensating material is released from the bag. This clearly distinguishes over the device 35 of Narang '451 which does not allow the balls and liquid to be released from device 35. The balls and liquid are retained within device 35. It is therefore believed that claim 1, as amended, clearly distinguishes over Narang, and withdrawal of the rejection is respectfully requested.

#### **Information Disclosure Statement**

It is noted that a timely filed information disclosure statement was filed in the present case on October 24, 2001. It is unknown if the Examiner did not receive the IDS due to problems with the mail. If the IDS has still not been received, a call to the Attorney at (330) 864-5550 would be appreciated so that the issue may be resolved.

In view of the claim amendments and of the arguments set forth above, prompt reconsideration and allowance of the claims is earnestly requested.

Respectfully submitted,  
Hahn Loeser & Parks LLP  
formerly OLDHAM & OLDHAM CO., L.P.A.

A handwritten signature in black ink, reading "Robert J. Clark". The signature is written in a cursive, flowing style with a large initial "R".

Robert J. Clark  
Registration No. 45,835

Twin Oaks Estate  
1225 West Market Street  
Akron, Ohio 44313-7188  
(330) 864-5550

Attorney Docket No. 5838-YY-1-CON

UNMARKED VERSION OF AMENDMENTS MADE

Please replace paragraph [0001] with the following paragraph.

[0001] This invention relates to a method and system for introducing a predetermined amount of a force compensating material into a wheel/tire assembly for equalizing radial and lateral force variations at the tire/road footprint of a pneumatic tire.

Please replace paragraph [0006] with the paragraph shown below.

[0006] While the use of a compensating material introduced into the interior of the tire has been found to work effectively, either alone or in combination with other balancing techniques, a limitation has been found in how to introduce this material into the tire. In the prior approaches, as depicted in FIG. 3, pulverulent material 20 deposited in mound M is suspended in an air stream and introduced into a tire through a hose line (not shown) and valve stem 14 of tire valve 13 used for inflation of a tire 11. Although such an approach works sufficiently, this method of delivery of a compensating material is in some instances an inconvenient delivery method, and may result in contamination of a work place where a wheel assembly is being balanced. This delivery system has further been utilized in the aftermarket environment to facilitate balancing of replacement tires, and no effective approach to introducing such material into a tire/wheel assembly at original manufacture has been provided.

Please replace paragraph [0033] with the paragraph shown below.

[0033] The particles must have a specific gravity greater than 1 so that they will move positively and as quickly as possible from one place to another in response to external force. It has also been found that the addition of dry powder lubricant or anti-agglomerating agents can significantly increase the effectiveness of the principal particulate material. The dry lubricant acts to coat the interior surface of the tire as well as the primary particulate material particles. In this way particle-particle friction of the particulate material is reduced as is friction at the particulate particle-tire surface interface. The reduced friction allows the particulate material to respond more quickly in equalizing radial and lateral forces acting on the vehicle wheel assembly.

Please replace paragraph [0034] with the paragraph shown below.

[0034] When present in a sufficient amount the dry lubricant serves as a vehicle within which the pulverulent material may freely flow or move laterally and circumferentially within the tire. Further due to the extremely fine particle size of the lubricant, quantities of the lubricant itself may quickly move to positions within the tire in order to equalize radial and lateral forces acting on the vehicle wheel assembly. Other anti-agglomerating agents to function in this manner are also contemplated.

Please replace paragraph [0038] with the paragraph shown below.

[0038] In order to introduce wheel compensating material in the form of agglomerates into a tire in an amount sufficient to equalize radial and lateral forces of a wheel assembly, it is necessary to introduce at least one self-contained batch, and it may be necessary to introduce more than one self-contained batch, as in the form of pellets, or a single self-contained batch, as in the form of a briquette 30. A self-contained batch is preferably sized such that it may be introduced into a tire as one batch (such as a briquette) or in a plurality of batches (such as pellets). The number of self-contained batches required to provide the desired compensation of radial and lateral force variations at the tire/road footprint will in turn be dependent on the characteristics of the tire/wheel assembly 10 as well as the characteristics of the vehicle on which the assembly is to be used. For example, the amount of compensating material required to provide the desired compensation function will increase as the size of the tire increases and as the gross vehicle weight increases. Further, it may be determined that a tire is imbalanced to a certain extent which would require a greater amount of compensating material. Other characteristics of a tire/wheel assembly, such as non-uniformity may also vary the amount of compensating material required. Thus, according to the invention, the self-contained batches of material may be formed in a variety of predetermined sizes to allow the desired amount of material to be easily chosen and introduced into the tire of a particular tire/wheel/vehicle combination simply and effectively. In general, the preferred amount of the preferred compensating material for passenger and light truck vehicles is in a range of 0.20-2.0 ounces while larger vehicles may use a larger amount, such as between 1.5-24 ounces. These amounts may vary depending on particular characteristics of the tire/wheel/vehicle. More particularly, the following ranges of the preferred compensating material are generally found to be effective for the following tire sizes. For a 13" tire/wheel, an amount of compensating material for

incorporation therein may range from about 0.2-0.6 ounces. A 14" tire/wheel may require an amount of compensating material in the range from about 0.4-0.9 ounces, while a 15" tire/wheel may require between 0.8-1.4 ounces. For a 16" tire/wheel, the amount of compensating material that may be required may range from about 1.0-1.7 ounces, while a 17" tire/wheel may require an amount in the range from about 1.2-2.0 ounces. For truck tires, the amount of compensating material that would be desired for compensating radial and lateral force variations may lie in the range between 2.0-6.0 ounces. Again, depending on the material itself as well as the characteristics of the tire/wheel/vehicle, the amount of material desired may vary. In general, the amount of material is sufficient to balance a wheel assembly and compensate for radial and lateral force variations at the footprint. Thus, as tires of any size, ranging from passenger car tires to truck tires, can be treated with a composition according to this invention for the purpose of balancing a wheel assembly and/or equalizing load forces. The amount (or weight) of powdered material per tire to be used will vary over a wide range, depending on the size of the tire and the amount that the tire is out of balance, whether this amount be expressed as a suitable range or as an optimum amount. A suitable amount of material to be used can be determined empirically, and indeed may require determination empirically, since the amount that a tire is out of balance is determined empirically.

Please replace paragraph [0045] with the paragraph shown below.

[0045]        The compositions above described may be formed by known procedures. Pellets, briquettes and other agglomerates or extrudates according to this invention may be made of any convenient size and shape. Pellets are typically either spherical or ellipsoidal. Briquettes are

typically pillow shaped as shown in Fig. 5. Extrudates are typically cylindrical. None of these shapes is critical. Size also is not critical, except that an agglomerate should be no larger than is necessary to contain wheel compensating material sufficient to charge a given tire size using one self-contained batch. An agglomerate can be small enough to permit charging of a plurality of self-contained batches.

Please replace paragraph [0046] with the paragraph shown below.

[0046] In another embodiment as shown in Fig. 6, a self-contained batch of particulate wheel compensating material is made in the form of a bag 40 containing free flowing compensating material. A bag is also suitable as a self-containment form for liquid and liquid/solid materials. A bag is preferably made of a material that will abrade, tear or shred upon rotation of an assembled wheel. Suitable materials include generally paper and plastic. In Fig. 6, the bag 40 is designed to contain a predetermined amount of compensating material to allow shipping, handling and charging of a tire/wheel assembly without substantial loss of material, and then to break down to release the free-flowing particles or other material. In an embodiment of bag 40, a paper material may be used to form bag 40 in a conventional manner using form, fill and seal equipment. In such equipment, bag 40 is produced with an initially open top, the compensating material is placed therein, and the top is then sealed. In a particular example, a 20 lb. paper was used to form bag 40, with the edges thereof hot sealed using a 5 lb. low density polyethylene glue. Other paper weights or glues may also be suitable for a given tire/wheel assembly. Thus a bag of compensating material is self-contained in that it will retain substantially all of the material batch in the bag until the bag is transferred into a tire.



Please replace paragraph [0048] with the paragraph shown below.

[0048] In a further embodiment of a self-contained batch using a container such as a bag 40 for the free-flowing material, may also use perforations 48 in the bag material (whether paper or polymeric) if desired, to facilitate shredding of the bag 40 and release of the compensating material. Such perforations can be formed using conventional perforating equipment. It should be understood that any such perforations would have to be of a character to not allow the escape of material from within the bag 40 until bag 40 has been charged into a tire. The perforations, or microperforations, if any, are sufficiently small to prevent loss of wheel compensating material through the perforation holes, but also facilitate shredding of the bag 40 upon rotation of the tire.

**In the Claims:**

Replace the following claims with the claims shown:

1. (Amended) A method for introducing a compensating material into a tire/wheel assembly comprising the steps of:
  - providing a tire;
  - providing at least one bag of compensating material;
  - transferring said at least one bag of compensating material into an interior of said tire;and
  - mounting said tire on a wheel to form a tire/wheel assembly;

wherein compensating material is released from said at least one bag.

8. (Amended) The method of claim 1, wherein said bag is ruptured to release said material.
10. (Amended) The method of claim 1, wherein said at least one bag is a paper or plastic bag.
11. (Amended) The method of claim 1, wherein said at least one bag is adapted to release said compensating material after positioning thereof inside said tire and upon rotation of said tire/wheel assembly.
12. (Amended) The method of claim 1, wherein said at least one bag is made of a material which will break down upon being rotated within said tire/wheel assembly to release said compensating material.
13. (Amended) The method of claim 1, wherein said at least one bag has a plurality of perforations therein.
14. (Amended) The method of claim 1, wherein said bag has a primary seal and a secondary seal, wherein said primary seal is a relatively stronger seal than said secondary seal.

22. (Amended) A method of compensating for radial and lateral force variations at the tire/road footprint of a tire/wheel assembly comprising the steps of:

providing a predetermined amount of compensating material formed in at least one briquette,  
putting said at least one briquette into an interior of said tire,  
mounting said tire on a wheel to form a tire/wheel assembly,  
rotating said tire/wheel assembly thereby breaking up said at least one briquette wherein said compensating material disperses within said tire/wheel assembly.

23. (Amended) A method for introducing a compensating material into a tire/wheel assembly comprising the steps of:

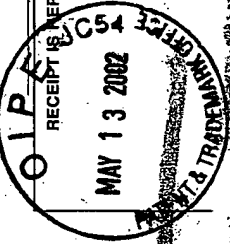
providing a tire;  
providing at least one bag of compensating material,  
placing said at least one bag into an interior of said tire;  
mounting said tire on a wheel forming a tire/wheel assembly; and  
inflating said tire/wheel assembly whereby said at least one bag becomes ruptured to release said compensating material within said tire/wheel assembly.

Attorney Docket No. 5838-71-1-CON Serials AJC/PAM Date 5/2/2002  
Inventor/Applicant LEE D. FOGAL, SR. SI No. 09/873,872

Title PAC-HOD AND SYSTEM FOR TIRE/WHEEL... Filed 6/4/2001  
AMENDMENT (Due 4/2/2002)

☐ PATENT/DESIGN APPLICATION  
☐ pgs. Specification  
☐ pgs. Claims  
☐ Total ☐ Independent  
☐ pgs. Abstract  
☐ Sheet(s) of Drawings  
☐ Formal ☐ Informal  
☐ Declaration/Power of Attorney  
☐ Small Entity Status  
☐ Copy of Notice to File Missing Parts  
☐ PCT Request  
☐ Fee Calculation Sheet  
☐ Demand for Prel. Examination  
☐ Base Issue Fee  
☐ Supplemental Declaration

☒ AMENDMENT (Due 4/2/2002) Month(s)  
☒ Extension of Time For  
☐ INFORMATION DISCLOSURE STATEMENT  
☐ ASSIGNMENT  
☐ PTO/SB/08A  
☐ Reels  
☐ RECORDATION  
☒ CHECK(s) in Amount \$ 55.00  
☒ TRANSMITTAL  
☐ New Application  
☐ OTHER





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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/873,872      | 06/04/2001  | Robert D. Fogal SR.  | //5838-YY-1-CON     | 4552             |

7590

08/13/2002

Robert J. Clark  
Oldham & Oldham Co., L.P.A.  
Twin Oaks Estate  
1225 West Market Street  
Akron, OH 44313-7188

EXAMINER

NGUYEN, TRINH T

ART UNIT

PAPER NUMBER

3726

DATE MAILED: 08/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Notice of Abandonment

Application No.

09/873,872

Applicant(s)

Fogal

Examiner

Trinh Nguyen

Art Unit

3726



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

This application is abandoned in view of:

1. ☒ Applicant's failure to timely file a proper reply to the Office letter mailed on Jan 2, 2002.
  - (a) ☐ A reply was received on \_\_\_\_\_ (with a Certificate of Mailing or Transmission dated \_\_\_\_\_), which is after the expiration of the period for reply (including a total extension of time of \_\_\_\_\_ month(s)) which expired on \_\_\_\_\_.
  - (b) ☐ A proposed reply was received on \_\_\_\_\_, but it does not constitute a proper reply under 37 CFR 1.113(a) to the final rejection.

(A proper reply under 37 CFR 1.113 to a final rejection consists only of: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114).
  - (c) ☒ A reply was received on 1/17/02 (IDS) but it does not constitute a proper reply, or a bona fide attempt at a proper reply, to the non-final rejection. See 37 CFR 1.85(a) and 1.111. ~~(See explanation in box 7 below).~~
  - (d) ☐ No reply has been received.
2. ☐ Applicant's failure to timely pay the required issue fee and publication fee, if applicable, within the statutory period of three months from the mailing date of the Notice of Allowance (PTOL-85).
  - (a) ☐ The issue fee and publication fee, if applicable, was received on \_\_\_\_\_ (with a Certificate of Mailing or Transmission dated \_\_\_\_\_), which is after the expiration of the statutory period for payment of the issue fee (and publication fee) set in the Notice of Allowance (PTOL-85).
  - (b) ☐ The submitted issue fee of \$ \_\_\_\_\_ is insufficient. A balance of \$ \_\_\_\_\_ is due.

The issue fee required by 37 CFR 1.18 is \$ \_\_\_\_\_. The publication fee, if required by 37 CFR 1.18(d) is \$ \_\_\_\_\_.
  - (c) ☐ The issue fee and publication fee, if applicable, has not been received.
3. ☐ Applicant's failure to timely file corrected drawings as required by, and within the three-month period set in, the Notice of Allowability (PTO-37).
  - (a) ☐ Proposed new formal drawings were received on \_\_\_\_\_ (with a Certificate of Mailing or Transmission dated \_\_\_\_\_), which is after the expiration of the period for reply.
  - (b) ☐ No corrected drawings have been received.
4. ☐ The letter of express abandonment which is signed by the attorney or agent of record, the assignee of the entire interest, or all of the applicants.
5. ☐ The letter of express abandonment which is signed by an attorney or agent (acting in a representative capacity under 37 CFR 1.34(a)) upon the filing of a continuing application.
6. ☐ The decision by the Board of Patent Appeals and Interferences rendered on \_\_\_\_\_ and because the period for seeking court review of the decision has expired and there are no allowed claims.
7. ☐ The reason(s) below:

GREGORY M. VIDOVICH  
PRIMARY EXAMINER  
SPE in 3726

Petitions to revive under 37 CFR 1.137(a) or (b), or requests to withdraw the holding of abandonment under 37 CFR 1.181 should be promptly filed to minimize any negative effects on patent term.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Robert D. Fogal, Sr.

Application No.: 09/873,872

Group No.: 3726

Filed: 06/04/2001

Examiner: Nguyen, T.

For: METHOD AND SYSTEM FOR TIRE/WHEEL DISTURBANCE COMPENSATION

Commissioner for Patents  
Washington, D.C. 20231

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8(a)

I hereby certify that the attached correspondence comprising:

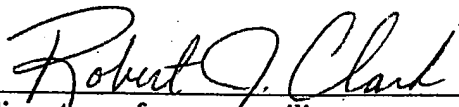
- 1) Petition to Withdraw Holding of Abandonment;
- 2) Copy of Return Postcard;
- 3) Copy of PAIR System File Contents History;
- 4) Statement Attesting to Mailing of P.T.O. Correspondence Under 37 C.F.R. § 1.8(a); and
- 5) Copies of Certificate of Mailing by first class mail, Response to Office Action, and check in the amount of \$55.00 as were mailed on May 2, 2002.

is being deposited with the United States Postal Service, with sufficient postage, as first class mail in an envelope addressed to:

Commissioner for Patents  
Washington, D.C. 20231

on Aug. 19, 2002.

Robert J. Clark

  
Signature of person mailing paper

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of: **Fogal Sr., R.**

Serial No.: **09/873,872**

Group Art Unit: **1772**

Filed: **June 4, 2001**

Examiner: **Nguyen, T.**

For: **Method and System for Tire/Wheel Disturbance Compensation**

PETITION TO WITHDRAW HOLDING OF ABANDONMENT

Assistant Commissioner  
For Patents  
Washington, D.C. 20231

Sir:


1. I hereby petition to withdraw the holding of abandonment in this case, on the basis that the Applicant's Response to the Office Action was timely filed and received by the USPTO.
2. Background: The Application was mailed to the USPTO on June 4, 2001 by Express Mail.
3. An Information Disclosure Statement was timely mailed on October 24, 2001 with a certificate of mailing.
4. Due to the events of September 11, 2001, the IDS was not stamped as received until January 17, 2002.
5. Present Issue: A non-final office action was mailed from the USPTO to the Applicant on January 2, 2002.
6. A proper reply was mailed by the Applicant to the USPTO on May 2, 2002, with a petition for a one month extension of time, a check for \$55 (small entity), a certificate of mailing, transmittal, and a return post card.
7. The return postcard properly identified the application number and indicated that an amendment, a one month extension, a check for \$55, and a transmittal were attached to the postcard.
8. The return postcard was received by the Applicant on May 20, 2002 from the USPTO.



9. The return postcard is stamped by the USPTO and indicates that the response was received by the USPTO on May 13, 2002.
10. A Notice of Abandonment was mailed to the Applicant on August 13, 2002.
11. The Notice of Abandonment indicated that "a reply was received on 1/17/02 IDS but does not constitute a proper reply...to the non-final rejection."
12. An online search of the file contents history in PAIR for the present application does not show the Response to the Office Action as filed.
13. It is apparent that the Response to the Office Action was lost at the USPTO after it was received in the USPTO mail room.
14. A post card receipt which itemizes and properly identifies the papers which are being filed serves as *prima facie* evidence of receipt in the PTO of all items listed thereon on the date stamped thereon by the PTO (MPEP 505).
15. A copy of the post card receipt is attached herein.
16. A copy of the Response to the Office Action as filed on May 2, 2002 is attached herein.
17. A copy of the PAIR system File Contents History is attached herein.
18. Please charge Account No. 15-0450 for any fees that may be due by this paper.
19. This Petition to Withdraw Holding of Abandonment is being timely filed in that it is being filed within 1 month of Applicant learning of the August 13, 2002 mailing date of the Notice of Abandonment by the USPTO.
20. Acknowledgement of the active status of this application is respectfully requested.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001.

Date: August 19, 2002

  
Robert J. Clark  
Reg. No. 45,835

Hahn Loeser + Parks LLP  
1225 West Market Street  
Akron, Ohio 44313  
(330) 864-5550

Attorney Docket No. 5838-74-1-CON Initials RJC/PAM Date 5/2/2002  
 Inventor/Applicant 1 LET D. FOEAL, SR. SI No. 09/893872  
 Title METHOD AND SYSTEM FOR TIRE/WHEEL... Filed 6/4/2001  
☐ **PATENT/DESIGN APPLICATION**  
     \_\_\_\_\_ pgs. Specification  
     \_\_\_\_\_ pgs. Claims  
     \_\_\_\_\_ Total \_\_\_\_\_ Independent  
     \_\_\_\_\_ pgs. Abstract  
     \_\_\_\_\_ Sheet(s) of Drawings  
     \_\_\_\_\_ Formal \_\_\_\_\_ Informal  
     \_\_\_\_\_ Declaration/Power of Attorney  
     \_\_\_\_\_ Small Entity Status  
     \_\_\_\_\_ Copy of Notice to File Missing Parts  
     \_\_\_\_\_ PCT Request  
     \_\_\_\_\_ Fee Calculation Sheet  
     \_\_\_\_\_ Demand for Prel. Examination  
     \_\_\_\_\_ Base Issue Fee  
     \_\_\_\_\_ Supplemental Declaration  
☒ **AMENDMENT** (Due 4/2/2002)  
     ☒ Extension of Time For 1 Month(s)  
☐ **INFORMATION DISCLOSURE STATEMENT**  
     \_\_\_\_\_ PTO/SB/OBA \_\_\_\_\_ Refs.  
☐ **ASSIGNMENT** \_\_\_\_\_ Recordation  
☒ **CHECK(s) In Amount \$** 55.00  
☒ **TRANSMITTAL** \_\_\_\_\_ New Application  
☐ **OTHER** \_\_\_\_\_  
 RECEIPT IS HEREBY ACKNOWLEDGED  
 MAY 13 2002  
 PATENT & TRADEMARK OFFICE

OLDHAM & OLDHAM Co., L.P.A.  
 TWIN OAKS ESTATE  
 1225 WEST MARKET STREET  
 AKRON, OHIO 44313-7188



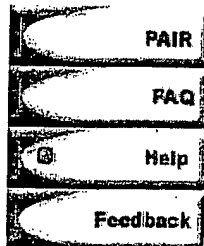
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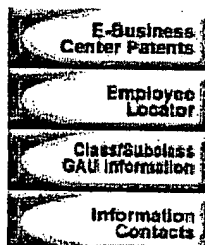
# UNITED STATES PATENT AND TRADEMARK OFFICE

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## PATENT APPLICATION INFORMATION RETRIEVAL



### Other Links



### Search results for application number: 09/873,8

|                            |                    |                         |   |
|----------------------------|--------------------|-------------------------|---|
| Application Filing Date:   | 06-04-2001         | Class / Sub-Class:      | 029/894.310   |
| Issue Date of Patent:      | -                  | Location:               | FILE REPOSITORY (FRANCONIA)                         |
| Examiner Name:             | NGUYEN, TRINH T    | Status:                 | Abandoned -- Failure to Respond to an Office Action |
| Group Art Unit:            | 3726               | Attorney Docket Number: | 5838-YY-1-CON                                       |
| Earliest Publication No:   | US 2001-0052185 A1 | Patent Number:          | -   |
| Earliest Publication Date: | 12-20-2001         | Customer Number:        | -   |
| Confirmation Number:       | 4552               |                         |   |

[Foreign Priority](#)[Continuity Data](#)

### File Contents History

| Number | Date       | Contents Description                                     |
|--------|------------|--|
| 10     | 08-13-2002 | Mail Abandonment for Failure to Respond to Office Action |
| 9      | 08-12-2002 | Abandonment for Failure to Respond to Office Action      |
| 8      | 01-17-2002 | Information Disclosure Statement (IDS) Filed             |
| 7      | 01-02-2002 | Mail Non-Final Rejection                                 |
| 6      | 12-28-2001 | Non-Final Rejection                                      |
| 5      | 10-17-     | Case Docketed to Examiner in GAU                         |

|   |            |                                  |
|---|------------|----------------------------------|
|   | 2001       |                                  |
| 4 | 08-02-2001 | Application Dispatched from OIPE |
| 3 | 08-02-2001 | Correspondence Address Change    |
| 2 | 06-14-2001 | Application Scanned              |
| 1 | 06-04-2001 | Initial Exam Team nn             |

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Robert D. Fogal, Sr.

Application No.: 09/873,872

Group No.: 3726

Filed: 06/04/2001

Examiner: Nguyen, T.

For: METHOD AND SYSTEM FOR TIRE/WHEEL DISTURBANCE COMPENSATION

Commissioner for Patents  
Washington, D.C. 20231

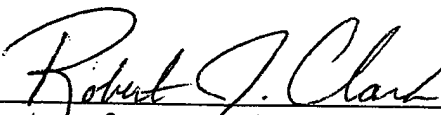
STATEMENT ATTESTING TO MAILING OF P.T.O. CORRESPONDENCE  
UNDER 37 C.F.R. § 1.8(a)

I state that on May 2, 2002, I mailed the original of the attached copy of correspondence and Certificate of Mailing by first class mail, with sufficient postage, in an envelope addressed to the "Commissioner for Patents, Washington, D.C. 20231."

Also attached is a copy of the return post card with respect to the correspondence.

Robert J. Clark

Date: August 19, 2002

  
\_\_\_\_\_  
Signature of person making this statement

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Fogal, Sr., Robert D.

Application No.: 09/873,872

Group No.: 3726

Filed: 06/04/2001

Examiner: Nguyen, T.

For: METHOD AND SYSTEM FOR TIRE/WHEEL DISTURBANCE COMPENSATION

Assistant Commissioner for Patents  
Washington, D.C. 20231

AMENDMENT TRANSMITTAL

1. Transmitted herewith is an amendment for this application.

STATUS

2. Applicant is a small entity. A statement was already filed.

EXTENSION OF TERM

3. The proceedings herein are for a patent application and the provisions of 37 C.F.R. 1.136 apply. Applicant petitions for an extension of time under 37 C.F.R. 1.136 (fees: 37 C.F.R. 1.17(a)(1)-(4)) for one month:

Fee: \$55.00

**CERTIFICATION UNDER 37 C.F.R. 1.8(a) and 1.10\***  
(When using Express Mail, the Express Mail label number is *mandatory*;  
*Express Mail certification is optional.*)

I hereby certify that, on the date shown below, this correspondence is being:

MAILING

- ☒ deposited with the United States Postal Service in an envelope addressed to the Assistant Commissioner for Patents, Washington D.C. 20231  
37 C.F.R. § 1.8(a)  
☒ with sufficient postage as first class mail.
- ☐ as "Express Mail Post Office to Addressee"  
Mailing Label No. \_\_\_\_\_ (mandatory)

TRANSMISSION

- ☐ facsimile transmitted to the Patent and Trademark Office, (703) \_\_\_\_\_

Date: May 2, 2002

Signature

Robert J. Clark

(type or print name of person certifying)

\* Only the date of filing ( 1.6) will be the date used in a patent term adjustment calculation, although the date on any certificate of mailing or transmission under 1.8 continues to be taken into account in determining timeliness. See 1.703(f). Consider "Express Mail Post Office to Addressee" ( 1.10) or facsimile transmission ( 1.6(d)) for the reply to be accorded the earliest possible filing date for patent term adjustment calculations.

### FEE FOR CLAIMS

4. The fee for claims (37 C.F.R. 1.16(b)-(d)) has been calculated as shown below:

|   | (Col. 1)                                  | (Col. 2)                              | (Col. 3)         | SMALL ENTITY        |               |  |      |
|---|---|---------------------------------------|------------------|---------------------|---------------|--|------|
|   | CLAIMS<br>REMAINING<br>AFTER<br>AMENDMENT | HIGHEST NO.<br>PREVIOUSLY<br>PAID FOR | PRESENT<br>EXTRA | RATE                | ADDIT.<br>FEE |  |      |
| TOTAL                                     | 17  | - 23                                  | = 0              | x \$ 9.00           | = \$          |  | 0.00 |
| INDEP.                                    | 3   | - 3                                   | = 0              | x \$ 42.00          | = \$          |  | 0.00 |
| FIRST PRESENTATION OF MULTIPLE DEP. CLAIM |   |                                       |                  | + \$ 0.00           | = \$          |  | 0.00 |
|   |   |                                       |                  | TOTAL<br>ADDIT. FEE | \$            |  | 0.00 |

No additional fee for claims is required.

### FEE PAYMENT

5. Attached is a check in the sum of \$55.00.

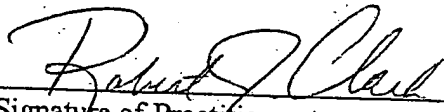
A duplicate of this paper is attached.

### FEE DEFICIENCY

6. An additional extension and/or fee is required, charge Account No. 15-0450.  
An additional fee for claims is required, charge Account No. 15-0450.

Date: May 2, 2002

Reg. No.: 45,835  
Tel. No.: 330-864-5550  
Customer No.: 021324

  
Signature of Practitioner

Robert J. Clark  
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**HAHN LOESER & PARKS LLP**

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| DATE | INVOICE NO. | REFERENCE | AMOUNT |
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Commissioner of Patents & Trademark

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**HAHN LOESER & PARKS LLP**

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MEMO 5838-44-1-CAN

*Maureen*

002266 0412025820 577874498



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Fogal, Sr., R. Examiner: Nguyen, T.  
Serial No: 09/873,872 Art Unit: 3726  
Filed: June 4, 2001 Date: May 2, 2002  
For: METHOD AND SYSTEM FOR TIRE/WHEEL DISTURBANCE  
COMPENSATION

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**RESPONSE TO OFFICE ACTION**

This paper is filed responsive to the Office Action mailed January 2, 2002. As this response is filed within four months of the mailing date, a one month extension fee is believed to be due at this time and is enclosed herein. No fees are believed to be due for claims in excess of the three independent claims and the twenty-three total claims already paid for. If any fees are required, please consider this a petition for payment of them and charge them to Deposit Account 15-0450. As this response is believed to fully comply with the Examiner's requirement, prompt action on the merits of the case is earnestly requested.

**AMENDMENTS**

In the Specification:

Please make the following amendments to the specification:

Please amend paragraph [0001] as shown:

[0001] This invention relates to a method and system for introducing a predetermined amount of a force compensating material into a wheel/tire assembly for [counteracting] equalizing radial and lateral force variations at the tire/road footprint of a pneumatic tire.

Please insert the following new paragraphs after paragraph [0005].

[0005.1] The applicant's U.S. Patent 6,249,971, entitled Method and System for Tire/Wheel Disturbance Compensation, which is hereby incorporated by reference describes such an approach to disturbance compensation. This approach is briefly described with reference to prior art FIG. 4 which illustrates the innumerable radial impact forces ( $F_n$ ) which continuously react between the road R and the tread T at the lower portion or footprint B during tire/wheel assembly rotation. There are an infinite number of such forces  $F_n$  at virtually an infinite number of locations ( $P_n$ ) across the lateral width W and the length L of the footprint B, and FIG. 4 diagrammatically illustrate five such impact forces F1-F5 at respective locations P1-P5. It is assumed that the forces F1-F5 are different from each other because of such factors as tire wear at the specific impact force location, the road condition at each impact force location, the load upon each tire/wheel assembly, etc. Thus, the least impact force is the force F1 at location P1 whereas the greatest impact force is the force F2 at location P2. Once again, these forces F1-F5 are merely exemplary of innumerable/infinite forces laterally across the tire 11 between the sidewalls SW1 and SW2 and circumferentially along the tire interior I which are created continuously and which vary as the tire/wheel assembly 10 rotates.

[0005.2] As these impact forces are generated during tire/wheel assembly rotation, the material 20 is adapted to relocate in dependency upon the location and the severity of the impact forces  $F_n$ . In the preferred embodiment, material 20 is a composition of dry, solid particles, wherein relocation of the particle mixture 20 through movement of the individual granules, powder and dust is also inversely related to the magnitude of the impact forces. For example, the greatest force  $F_1$  is at position  $P_1$ , and due to these greater forces  $F_1$ , the particle mixture 20 is forced away from the point  $P_1$  with the least amount of the particle mixture remaining at the point  $P_1$  because the load force there is the highest. Contrarily, the impact force  $F$  is the lowest at the impact force location point  $P_2$  and therefor more of the particle mixture 20 will remain there. In other words, at points of maximum or greatest impact forces ( $F_1$  in the example), the quantity of the particle mixture 20 is the least, whereas at points of minimum force impact (point  $P_2$  in the example), the quantity of particle mixture 20 is proportionately increased. This movement of material creates lift, thereby substantially equalizing the radial and lateral force variations. Accordingly, the vibrations or impact forces  $F_n$  force the particle mixture 20 to continuously move away from the higher or excessive impact areas  $F_1$  or areas of maximum imbalance  $F_1$  and toward the areas of minimum impact forces or imbalance  $F_2$ . The particle mixture 20 is moved by these impact forces  $F_n$  both laterally and circumferentially, but if a single force and a single granule of the particle mixture 20 could be isolated, so to speak, from the standpoint of cause and effect, a single granule located at a point of maximum impact force  $F_n$  would be theoretically moved 180 degrees therefrom. Essentially, with an adequate quantity of particle mixture 20, the variable forces  $F_n$  create through the impact thereof a lifting effect within the tire interior I which equalizes the radial force variation applied against the footprint until there is a total force equalization circumferentially and laterally of the complete tire/wheel

assembly 10. Thus the rolling forces created by the rotation of the tire/wheel assembly 10 in effect create the energy or force  $F_n$  which is utilized to locate the particle mixture 20 to achieve lift and force equalization and assure a smooth ride. Furthermore, due to the characteristics of the particle mixture 20, road resonance is absorbed as the tire/wheel assemblies 10 rotate.

Please amend paragraph [0006] as shown:

[0006] While the use of a compensating material introduced into the interior of the tire has been found to work effectively, either alone or in combination with other balancing techniques, a limitation has been found in how to introduce this material into the tire. In the prior approaches, [the] as depicted in FIG. 3, pulverulent material 20 deposited in mound M is suspended in an air stream and introduced into a tire through a hose line (not shown) and valve stem 14 of tire valve 13 used for inflation of a tire 11. Although such an approach works sufficiently, this method of delivery of a compensating material is in some instances an inconvenient delivery method, and may result in contamination of a work place where a wheel assembly is being balanced. This delivery system has further been utilized in the aftermarket environment to facilitate balancing of replacement tires, and no effective approach to introducing such material into a tire/wheel assembly at original manufacture has been provided.

Please amend paragraph [0033] as shown.

[0033] The particles must have a specific gravity greater than 1 so that they will move positively and as quickly as possible from one place to another in response to external force. It

has also been found that the addition of dry powder lubricant or anti-agglomerating agents can significantly increase the effectiveness of the principal particulate material. The dry lubricant acts to coat the interior surface of the tire as well as the primary particulate material particles. In this way particle-particle friction of the particulate material is reduced as is friction at the particulate particle-tire surface interface. The reduced friction allows the particulate material to respond more quickly in [counteracting] equalizing radial and lateral forces acting on the vehicle wheel assembly.

Please amend paragraph [0034] as shown.

[0034] When present in a sufficient amount the dry lubricant serves as a vehicle within which the pulverulent material may freely flow or move laterally and circumferentially within the tire. Further due to the extremely fine particle size of the lubricant, quantities of the lubricant itself may quickly move to positions within the tire in order to [counteract] equalize radial and lateral forces acting on the vehicle wheel assembly. Other anti-agglomerating agents to function in this manner are also contemplated.

Please amend paragraph [0038] as shown.

[0038] In order to introduce wheel [balancing] compensating material in the form of agglomerates into a tire in an amount sufficient to [balance] equalize radial and lateral forces of a wheel assembly, it is necessary to introduce at least one self-contained batch, and it may be necessary to introduce more than one self-contained batch, as in the form of pellets, or a single

self-contained batch, as in the form of a briquette 30. A self-contained batch is preferably sized such that it may be introduced into a tire as one batch (such as a briquette) or in a plurality of batches (such as pellets). The number of self-contained batches required to provide the desired compensation of radial and lateral force variations at the tire/road footprint will in turn be dependent on the characteristics of the tire/wheel assembly 10 as well as the characteristics of the vehicle on which the assembly is to be used. For example, the amount of compensating material required to provide the desired compensation function will increase as the size of the tire increases and as the gross vehicle weight increases. Further, it may be determined that a tire is imbalanced to a certain extent which would require a greater amount of compensating material. Other characteristics of a tire/wheel assembly, such as non-uniformity may also vary the amount of compensating material required. Thus, according to the invention, the self-contained batches of material may be formed in a variety of predetermined sizes to allow the desired amount of material to be easily chosen and introduced into the tire of a particular tire/wheel/vehicle combination simply and effectively. In general, the preferred amount of the preferred compensating material for passenger and light truck vehicles is in a range of 0.20-2.0 ounces while larger vehicles may use a larger amount, such as between 1.5-24 ounces. These amounts may vary depending on particular characteristics of the tire/wheel/vehicle. More particularly, the following ranges of the preferred compensating material are generally found to be effective for the following tire sizes. For a 13" tire/wheel, an amount of compensating material for incorporation therein may range from about 0.2-0.6 ounces. A 14" tire/wheel may require an amount of compensating material in the range from about 0.4-0.9 ounces, while a 15" tire/wheel may require between 0.8-1.4 ounces. For a 16" tire/wheel, the amount of compensating material that may be required may range from about 1.0-1.7 ounces, while a 17" tire/wheel may require

an amount in the range from about 1.2-2.0 ounces. For truck tires, the amount of compensating material that would be desired for compensating radial and lateral force variations may lie in the range between 2.0-6.0 ounces. Again, depending on the material itself as well as the characteristics of the tire/wheel/vehicle, the amount of material desired may vary. In general, the amount of material is sufficient to balance a wheel assembly and compensate for radial and lateral force variations at the footprint. Thus, as tires of any size, ranging from passenger car tires to truck tires, can be treated with a composition according to this invention for the purpose of balancing a wheel assembly and/or equalizing load forces. The amount (or weight) of powdered material per tire to be used will vary over a wide range, depending on the size of the tire and the amount that the tire is out of balance, whether this amount be expressed as a suitable range or as an optimum amount. A suitable amount of material to be used can be determined empirically, and indeed may require determination empirically, since the amount that a tire is out of balance is determined empirically.

Please amend paragraph [0045] as shown.

[0045] The compositions above described may be formed by known procedures. Pellets, briquettes and other agglomerates or extrudates according to this invention may be made of any convenient size and shape. Pellets are typically either spherical or ellipsoidal. Briquettes are typically pillow shaped as shown in Fig. 5. Extrudates are typically cylindrical. None of these shapes is critical. Size also is not critical, except that an agglomerate should be no larger than is necessary to contain wheel [balancing] compensating material sufficient to charge a given tire

size using one self-contained batch. An agglomerate can be small enough to permit charging of a plurality of self-contained batches.

Please amend paragraph [0046] as shown.

[0046] In another embodiment as shown in Fig. 6, a self-contained batch of particulate wheel [balancing] compensating material is made in the form of a bag 40 containing free flowing compensating material. A bag is also suitable as a self-containment form for liquid and liquid/solid materials. A bag is preferably made of a material that will abrade, tear or shred upon rotation of an assembled wheel. Suitable materials include generally paper and plastic. In Fig. 6, the bag 40 is designed to contain a predetermined amount of compensating material to allow shipping, handling and charging of a tire/wheel assembly without substantial loss of material, and then to break down to release the free-flowing particles or other material. In an embodiment of bag 40, a paper material may be used to form bag 40 in a conventional manner using form, fill and seal equipment. In such equipment, bag 40 is produced with an initially open top, the compensating material is placed therein, and the top is then sealed. In a particular example, a 20 lb. paper was used to form bag 40, with the edges thereof hot sealed using a 5 lb. low density polyethylene glue. Other paper weights or glues may also be suitable for a given tire/wheel assembly. Thus a bag of compensating material is self-contained in that it will retain substantially all of the material batch in the bag until the bag is transferred into a tire.

Please amend paragraph [0048] as shown.



[0048] In a further embodiment of a self-contained batch using a container such as a bag 40 for the free-flowing material, may also use perforations 48 in the bag material (whether paper or polymeric) if desired, to facilitate shredding of the bag 40 and release of the compensating material. Such perforations can be formed using conventional perforating equipment. It should be understood that any such perforations would have to be of a character to not allow the escape of material from within the bag 40 until bag 40 has been charged into a tire. The perforations, or microperforations, if any, are sufficiently small to prevent loss of wheel [balancing] compensating material through the perforation holes, but also facilitate shredding of the bag 40 upon rotation of the tire.

**In the Claims:**

Please delete claims 9, 16-20 without bias or prejudice to the subject matter contained therein.

Please amend the claims as follows:

1. (Amended) A method for introducing a compensating material into a tire/wheel assembly comprising the steps of:
  - providing a tire;
  - providing at least one [self-contained batch] bag of compensating material;
  - transferring said at least one [self-contained batch] bag of compensating material into an interior of said tire; and
  - mounting said tire on a wheel to form a tire/wheel assembly;

wherein compensating material is released from said at least one bag [self-contained batch such that said compensating material is able to freely flow within said tire/wheel assembly].

8. (Amended) The method of claim 1, wherein said bag [self-contained batch is provided in at least one device to contain said material, wherein said device] is ruptured [destroyed] to release said material.

10. (Amended) The method of claim [9] 1, wherein said at least one bag is a paper or plastic bag.

11. (Amended) The method of claim [8] 1, wherein said at least one bag [device] is adapted to release said compensating material after positioning thereof inside said tire and upon rotation of said tire/wheel assembly.

12. (Amended) The method of claim [8] 1, wherein said at least one bag [device] is made of a material which will break down upon being rotated within said tire/wheel assembly to release said compensating material.

13. (Amended) The method of claim [9] 1, wherein said at least one bag has a plurality of perforations therein.

14. (Amended) The method of claim [9] 1, wherein said bag has a primary seal and a secondary seal, wherein said primary seal is a relatively stronger seal than said secondary seal.

22. (Amended) A method of compensating for radial and lateral force variations at the tire/road footprint of a tire/wheel assembly comprising the steps of:

providing a predetermined amount of compensating material formed in at least one briquette [self-contained batch in a form preventing said compensating material from freely flowing apart from self-contained batch],

putting said at least one briquette [self-contained batch] into an interior of said tire,

mounting said tire on a wheel to form a tire/wheel assembly,

[mounting said tire/wheel assembly on a vehicle,]

rotating said tire/wheel assembly thereby breaking up said at least one briquette wherein said compensating material [is released from said self-contained batch and] disperses within said tire/wheel assembly [to provide compensation of said force variations].

23. (Amended) A method for introducing a compensating material into a tire/wheel assembly comprising the steps of:

providing a tire;

providing at least one bag [self-contained batch] of compensating material[, said at least one self-contained batch comprising at least one bag containing a predetermined amount of said compensating material],

placing said at least one bag into an interior of said tire;

mounting said tire on a wheel forming a tire/wheel assembly; and

[mounting said tire/wheel onto a vehicle;]

inflating said tire/wheel assembly whereby said at least one bag becomes ruptured to  
release said compensating material within said tire/wheel assembly[;

wherein said predetermined amount of said compensating material is directly related the  
size of said tire].

## **REMARKS**

Claims 1-23 were pending in this matter at the time of the Office Action. As a result of this response, claims 9, and 16-20 have been cancelled, claims 1, 8, 10-14, and 22-23 have been amended. The response below is made in view of the claims as they stand after these changes.

### **Specification**

The specification has been amended to add material from the parent application and as such, no new matter has been added to the specification.

### **Double Patenting**

The Examiner has rejected claims 1-23 based on nonstatutory double patenting. However, all remaining claims have now been amended and the double patenting rejection should be reconsidered.

### **Claim Rejections -- 35 USC §102**

The Examiner has rejected claim 1 under 35 USC §102(b) as being anticipated by Fogal (U.S. Patent Number 5,073,217) who is also the Applicant in the present application. The Examiner states that Fig. 3 of Fogal '217 shows a self-contained batch M.

The Applicant traverses the Examiner's argument for at least the following reasons. Element M does not represent a self-contained batch, but rather a pile of free-flowing pulverulent particles. Fig. 3 of Fogal '217 shows pulverulent material 20 flowing through valve stem 14 and deposited in a mound M, or pile, onto the interior I of a tire T. In the present application at page 3, lines 6-14, as originally filed and as amended, the Applicant discusses this prior art method

and the limitations of this prior approach which are overcome by the present invention. Mound M is a pile of particles of a pulverulent material. The particles are not in a bag as required by claim 1, as amended. Accordingly, withdrawal of the rejection of claim 1 is respectfully requested.

The Examiner has rejected claim 1 under 35 USC §102(b) as being anticipated by Narang (U.S. Patent Number 4,269,451). The Examiner states that Narang '451 teaches a method comprising the steps of compensating material in the form of liquid 37 and balls 40 disposed within a self-contained batch 35.

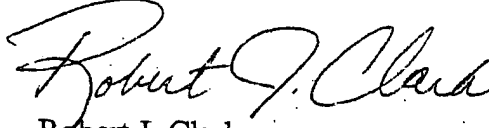
The Applicant traverses the Examiner's rejection for at least the following reasons. Claim 1, as amended, requires that the compensating material is released from the bag. This clearly distinguishes over the device 35 of Narang '451 which does not allow the balls and liquid to be released from device 35. The balls and liquid are retained within device 35. It is therefore believed that claim 1, as amended, clearly distinguishes over Narang, and withdrawal of the rejection is respectfully requested.

#### **Information Disclosure Statement**

It is noted that a timely filed information disclosure statement was filed in the present case on October 24, 2001. It is unknown if the Examiner did not receive the IDS due to problems with the mail. If the IDS has still not been received, a call to the Attorney at (330) 864-5550 would be appreciated so that the issue may be resolved.

In view of the claim amendments and of the arguments set forth above, prompt reconsideration and allowance of the claims is earnestly requested.

Respectfully submitted,  
Hahn Loeser & Parks LLP  
formerly OLDHAM & OLDHAM CO., L.P.A.

A handwritten signature in cursive script, reading "Robert J. Clark".

Robert J. Clark  
Registration No. 45,835

Twin Oaks Estate  
1225 West Market Street  
Akron, Ohio 44313-7188  
(330) 864-5550

Attorney Docket No. 5838-YY-1-CON

UNMARKED VERSION OF AMENDMENTS MADE

Please replace paragraph [0001] with the following paragraph.

[0001]        This invention relates to a method and system for introducing a predetermined amount of a force compensating material into a wheel/tire assembly for equalizing radial and lateral force variations at the tire/road footprint of a pneumatic tire.

Please replace paragraph [0006] with the paragraph shown below.

[0006]        While the use of a compensating material introduced into the interior of the tire has been found to work effectively, either alone or in combination with other balancing techniques, a limitation has been found in how to introduce this material into the tire. In the prior approaches, as depicted in FIG. 3, pulverulent material 20 deposited in mound M is suspended in an air stream and introduced into a tire through a hose line (not shown) and valve stem 14 of tire valve 13 used for inflation of a tire 11. Although such an approach works sufficiently, this method of delivery of a compensating material is in some instances an inconvenient delivery method, and may result in contamination of a work place where a wheel assembly is being balanced. This delivery system has further been utilized in the aftermarket environment to facilitate balancing of replacement tires, and no effective approach to introducing such material into a tire/wheel assembly at original manufacture has been provided.

Please replace paragraph [0033] with the paragraph shown below.



[0033]       The particles must have a specific gravity greater than 1 so that they will move positively and as quickly as possible from one place to another in response to external force. It has also been found that the addition of dry powder lubricant or anti-agglomerating agents can significantly increase the effectiveness of the principal particulate material. The dry lubricant acts to coat the interior surface of the tire as well as the primary particulate material particles. In this way particle-particle friction of the particulate material is reduced as is friction at the particulate particle-tire surface interface. The reduced friction allows the particulate material to respond more quickly in equalizing radial and lateral forces acting on the vehicle wheel assembly.

Please replace paragraph [0034] with the paragraph shown below.

[0034]       When present in a sufficient amount the dry lubricant serves as a vehicle within which the pulverulent material may freely flow or move laterally and circumferentially within the tire. Further due to the extremely fine particle size of the lubricant, quantities of the lubricant itself may quickly move to positions within the tire in order to equalize radial and lateral forces acting on the vehicle wheel assembly. Other anti-agglomerating agents to function in this manner are also contemplated.

Please replace paragraph [0038] with the paragraph shown below.

[0038] In order to introduce wheel compensating material in the form of agglomerates into a tire in an amount sufficient to equalize radial and lateral forces of a wheel assembly, it is necessary to introduce at least one self-contained batch, and it may be necessary to introduce more than one self-contained batch, as in the form of pellets, or a single self-contained batch, as in the form of a briquette 30. A self-contained batch is preferably sized such that it may be introduced into a tire as one batch (such as a briquette) or in a plurality of batches (such as pellets). The number of self-contained batches required to provide the desired compensation of radial and lateral force variations at the tire/road footprint will in turn be dependent on the characteristics of the tire/wheel assembly 10 as well as the characteristics of the vehicle on which the assembly is to be used. For example, the amount of compensating material required to provide the desired compensation function will increase as the size of the tire increases and as the gross vehicle weight increases. Further, it may be determined that a tire is imbalanced to a certain extent which would require a greater amount of compensating material. Other characteristics of a tire/wheel assembly, such as non-uniformity may also vary the amount of compensating material required. Thus, according to the invention, the self-contained batches of material may be formed in a variety of predetermined sizes to allow the desired amount of material to be easily chosen and introduced into the tire of a particular tire/wheel/vehicle combination simply and effectively. In general, the preferred amount of the preferred compensating material for passenger and light truck vehicles is in a range of 0.20-2.0 ounces while larger vehicles may use a larger amount, such as between 1.5-24 ounces. These amounts may vary depending on particular characteristics of the tire/wheel/vehicle. More particularly, the following ranges of the preferred compensating material are generally found to be effective for the following tire sizes. For a 13" tire/wheel, an amount of compensating material for

incorporation therein may range from about 0.2-0.6 ounces. A 14" tire/wheel may require an amount of compensating material in the range from about 0.4-0.9 ounces, while a 15" tire/wheel may require between 0.8-1.4 ounces. For a 16" tire/wheel, the amount of compensating material that may be required may range from about 1.0-1.7 ounces, while a 17" tire/wheel may require an amount in the range from about 1.2-2.0 ounces. For truck tires, the amount of compensating material that would be desired for compensating radial and lateral force variations may lie in the range between 2.0-6.0 ounces. Again, depending on the material itself as well as the characteristics of the tire/wheel/vehicle, the amount of material desired may vary. In general, the amount of material is sufficient to balance a wheel assembly and compensate for radial and lateral force variations at the footprint. Thus, as tires of any size, ranging from passenger car tires to truck tires, can be treated with a composition according to this invention for the purpose of balancing a wheel assembly and/or equalizing load forces. The amount (or weight) of powdered material per tire to be used will vary over a wide range, depending on the size of the tire and the amount that the tire is out of balance, whether this amount be expressed as a suitable range or as an optimum amount. A suitable amount of material to be used can be determined empirically, and indeed may require determination empirically, since the amount that a tire is out of balance is determined empirically.

Please replace paragraph [0045] with the paragraph shown below.

[0045] The compositions above described may be formed by known procedures. Pellets, briquettes and other agglomerates or extrudates according to this invention may be made of any convenient size and shape. Pellets are typically either spherical or ellipsoidal. Briquettes are

typically pillow shaped as shown in Fig. 5. Extrudates are typically cylindrical. None of these shapes is critical. Size also is not critical, except that an agglomerate should be no larger than is necessary to contain wheel compensating material sufficient to charge a given tire size using one self-contained batch. An agglomerate can be small enough to permit charging of a plurality of self-contained batches.

Please replace paragraph [0046] with the paragraph shown below.

[0046] In another embodiment as shown in Fig. 6, a self-contained batch of particulate wheel compensating material is made in the form of a bag 40 containing free flowing compensating material. A bag is also suitable as a self-containment form for liquid and liquid/solid materials. A bag is preferably made of a material that will abrade, tear or shred upon rotation of an assembled wheel. Suitable materials include generally paper and plastic. In Fig. 6, the bag 40 is designed to contain a predetermined amount of compensating material to allow shipping, handling and charging of a tire/wheel assembly without substantial loss of material, and then to break down to release the free-flowing particles or other material. In an embodiment of bag 40, a paper material may be used to form bag 40 in a conventional manner using form, fill and seal equipment. In such equipment, bag 40 is produced with an initially open top, the compensating material is placed therein, and the top is then sealed. In a particular example, a 20 lb. paper was used to form bag 40, with the edges thereof hot sealed using a 5 lb. low density polyethylene glue. Other paper weights or glues may also be suitable for a given tire/wheel assembly. Thus a bag of compensating material is self-contained in that it will retain substantially all of the material batch in the bag until the bag is transferred into a tire.

Please replace paragraph [0048] with the paragraph shown below.

[0048] In a further embodiment of a self-contained batch using a container such as a bag 40 for the free-flowing material, may also use perforations 48 in the bag material (whether paper or polymeric) if desired, to facilitate shredding of the bag 40 and release of the compensating material. Such perforations can be formed using conventional perforating equipment. It should be understood that any such perforations would have to be of a character to not allow the escape of material from within the bag 40 until bag 40 has been charged into a tire. The perforations, or microperforations, if any, are sufficiently small to prevent loss of wheel compensating material through the perforation holes, but also facilitate shredding of the bag 40 upon rotation of the tire.

**In the Claims:**

Replace the following claims with the claims shown:

1. (Amended) A method for introducing a compensating material into a tire/wheel assembly comprising the steps of:
  - providing a tire;
  - providing at least one bag of compensating material;
  - transferring said at least one bag of compensating material into an interior of said tire;
  - and
  - mounting said tire on a wheel to form a tire/wheel assembly;

wherein compensating material is released from said at least one bag.

8. (Amended) The method of claim 1, wherein said bag is ruptured to release said material.
10. (Amended) The method of claim 1, wherein said at least one bag is a paper or plastic bag.
11. (Amended) The method of claim 1, wherein said at least one bag is adapted to release said compensating material after positioning thereof inside said tire and upon rotation of said tire/wheel assembly.
12. (Amended) The method of claim 1, wherein said at least one bag is made of a material which will break down upon being rotated within said tire/wheel assembly to release said compensating material.
13. (Amended) The method of claim 1, wherein said at least one bag has a plurality of perforations therein.
14. (Amended) The method of claim 1, wherein said bag has a primary seal and a secondary seal, wherein said primary seal is a relatively stronger seal than said secondary seal.

22. (Amended) A method of compensating for radial and lateral force variations at the tire/road footprint of a tire/wheel assembly comprising the steps of:

providing a predetermined amount of compensating material formed in at least one briquette,

putting said at least one briquette into an interior of said tire,

mounting said tire on a wheel to form a tire/wheel assembly,

rotating said tire/wheel assembly thereby breaking up said at least one briquette wherein said compensating material disperses within said tire/wheel assembly.

23. (Amended) A method for introducing a compensating material into a tire/wheel assembly comprising the steps of:

providing a tire;

providing at least one bag of compensating material,

placing said at least one bag into an interior of said tire;

mounting said tire on a wheel forming a tire/wheel assembly; and

inflating said tire/wheel assembly whereby said at least one bag becomes ruptured to release said compensating material within said tire/wheel assembly.

Attorney Docket No. 5838-YY-1-C.O.N Initials RSC/PAM Date 8/17/2002  
 Inventor/Applicant RE T. D. FOGAL, SR. Ser. # 09/873,972  
 Title METHOD AND SYSTEM FOR TIRE/WHEEL... Filed 6/4/2001

☐ **PATENT/DESIGN APPLICATION**  
 pgs. Specification  
 pgs. Claims  
 Total Independent  
 pgs. Abstract  
 Sheet(s) of Drawings  
 Formal Informal  
 Declaration/Power of Attorney  
 Small Entity Status  
 Copy of Notice to File Missing Parts  
 PCT Request  
 Fee Calculation Sheet  
 Demand for Prel. Examination  
 Base Issue Fee  
 Supplemental Declaration

☐ **AMENDMENT** (Due \_\_\_\_\_) Extension of Time For \_\_\_\_\_ Month(s)  
☐ **INFORMATION DISCLOSURE STATEMENT**  
 PTO/SB/08A \_\_\_\_\_ Refs. \_\_\_\_\_  
☐ **ASSIGNMENT** \_\_\_\_\_ Recordation \_\_\_\_\_  
☒ **CHECK**(s) in Amount \$ 55.00  
☒ **TRANSMITTAL** \_\_\_\_\_ New Application \_\_\_\_\_  
☒ **OTHER** LETTER TO WITHDRAW HOLDING  
OF ABANDONMENT  
COPY OF PETITION POSTED  
COPY OF PTA SYSTEM FILE HISTORY  
STATEMENT SUBMITTED TO MAILING

RECEIPT IS HEREBY ACKNOWLEDGED  
 AUG 28 2002  
 PATENT & TRADEMARK OFFICE

COPIES OF CERTIFICATE  
 5/12/2002





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WASHINGTON, D.C. 20231  
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OCT 10 2002

Paper No. 6

In re Application of  
Robert D. Fogal, Sr.  
Application No. 09/873,872  
Filed: June 4, 2001  
Attorney Docket No. 5838-YY-1-CON

:  
: DECISION ON PETITION  
:  
:


This is a decision on the petition filed on August 26, 2002 by which petitioner requests withdrawal of the holding that this application stands abandoned for failure to file a reply to the Office letter dated January 2, 2002. No fee is required for the petition.

The petition is granted.

Petitioner alleges that this application is not in fact abandoned because a reply to the Office letter was in fact filed on May 13, 2002 and that the reply was timely by reason of a concurrently filed petition for a one month extension of time together with the fee therefor. This allegation is supported by copies of the papers and by a copy of a filing receipt for the papers dated May 13, 2002. The papers were accompanied by a 37 CFR 1.8(a) certificate of mailing dated May 2, 2002. In addition, Office financial records show that the fee for the extension was in fact received and applied.

It is clear from the above showing that this application was not abandoned. See, in particular, 37 CFR 1.8(b). Accordingly, the Notice of Abandonment is hereby vacated, the holding of abandonment is withdrawn, and the application is restored to pending status. The application is being forwarded to the examiner for action on the reply filed on May 13, 2002, certificate of mailing date May 2, 2002.

PETITION GRANTED.

  
E. Rollins-Cross, Director, Patent  
Examining Groups 3710 and 3720

Attachment

Robert J. Clark  
Oldham & Oldham Co, L.P.A.  
Twin Oaks Estate  
1225 West Market Street  
Akron, OH 44313-7188

ATTACHMENT

The petition and attached papers filed on August 26, 2002 have not been made part of the permanent records of the United States Patent and Trademark Office (Office) for this application (37 CFR 1.52(a)) because of damage from the United States Postal Service irradiation process. The above-identified papers, however, were not so damaged as to preclude the USPTO from making a legible copy of such papers. Therefore, the Office has made a copy of these papers, substituted them for the originals in the file, and stamped that copy:

COPY OF PAPERS  
ORIGINALLY FILED

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If applicant wants to review the accuracy of the Office's copy of such papers, applicant may either inspect the application (37 CFR 1.14(d)) or may request a copy of the Office's records of such papers (*i.e.*, a copy of the copy made by the Office) from the Office of Public Records for the fee specified in 37 CFR 1.19(b)(4). Please do **not** call the Technology Center's Customer Service Center to inquiry about the completeness or accuracy of Office's copy of the above-identified papers, as the Technology Center's Customer Service Center will **not** be able to provide this service.

If applicant does not consider the Office's copy of such papers to be accurate, applicant must provide a copy of the above-identified papers (except for any U.S. or foreign patent documents submitted with the above-identified papers) with a statement that such copy is a complete and accurate copy of the originally submitted documents. If applicant provides such a copy of the above-identified papers and statement within **THREE MONTHS** of the mail date of this Office action, the Office will add the original mailroom date and use the copy provided by applicant as the permanent Office record of the above-identified papers in place of the copy made by the Office. Otherwise, the Office's copy will be used as the permanent Office record of the above-identified papers (*i.e.*, the Office will use the copy of the above-identified papers made by the Office for examination and all other purposes). This three-month period is not extendable.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Robert D. Fogal, Sr.

Application No.: 09/873,872

Group No.: 3726

Filed: 06/04/2001

Examiner: Nguyen, T.

For: METHOD AND SYSTEM FOR TIRE/WHEEL DISTURBANCE COMPENSATION

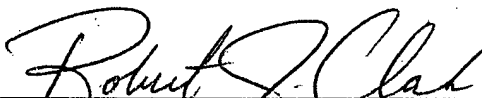
Commissioner for Patents  
Washington D.C. 20231

STATUS INQUIRY

1. Six months have passed since the filing of a Petition to Withdraw Abandonment on August 19, 2002, and four months have passed since the Petition to Revive Application was granted by the United States Patent & Trademark Office. The status in the Patent Application Information Retrieval system still indicates that the application is "Abandoned -- Failure to Respond to Office Action".
2. Kindly advise the undersigned of the present status of this application, by checking the appropriate box on the next page. A stamped return-addressed envelope is provided.

Date: February 19, 2003

Reg. No.: 45,835  
Tel. No.: 330-864-5550  
Customer No.: 021324

  
Signature of Practitioner

Robert J. Clark  
Hahn, Loeser & Parks, LLP  
Twin Oaks Estate  
1225 West Market Street  
Akron, OH 44313-7188

---

CERTIFICATION UNDER 37 C.F.R. §§ 1.8(a) and 1.10\*

I hereby certify that, on the date shown below, this correspondence is being:

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37 C.F.R. § 1.8(a) 37 C.F.R. § 1.10\*

- ☒ with sufficient postage as first class mail.

☐ as "Express Mail Post Office to Addressee"  
Mailing Label No. \_\_\_\_\_ (mandatory)

TRANSMISSION

- ☐ facsimile transmitted to the Patent and Trademark Office, (703) \_\_\_\_\_

  
Signature

Date: February 19, 2003

Robert J. Clark  
(type or print name of person certifying)

**STATUS INQUIRY REPLY**

APPLICATION NO. 09/873,872 IS CURRENTLY

☐ ASSIGNED TO GROUP \_\_\_\_\_ AND AWAITS:

☐ ACTION BY THE EXAMINER.

☐ APPLICANT'S RESPONSE TO THE OFFICE ACTION MAILED

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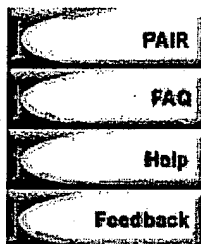
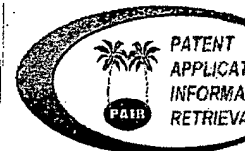
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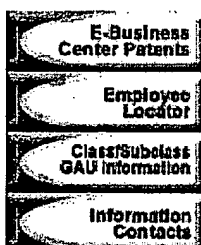
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## PATENT APPLICATION INFORMATION RETRIEVAL



### Other Links



### Search results for application number: 09/873,872

|                            |                        |                         |   |
|----------------------------|------------------------|-------------------------|---|
| Application Filing Date:   | 06-04-2001             | Class / Sub-Class:      | 029/894.310                                     |
| Issue Date of Patent:      |                        | Location:               | TC 3700 DIRECTOR/SECRETAR<br>3A19, 703-308-1078 |
| Examiner Name:             | NGUYEN,<br>TRINH T     | Status:                 | Abandoned -- Failure to Respon<br>Office Action |
| Group Art Unit:            | 3726                   | Attorney Docket Number: | 5838-YY-1-CON                                   |
| Earliest Publication No:   | US 2001-<br>0052185 A1 | Patent Number:          |   |
| Earliest Publication Date: | 12-20-2001             | Customer Number:        |   |
| Confirmation Number:       | 4552                   |                         |   |

[Foreign Priority](#)
[Continuity Data](#)

### File Contents History

| Number | Date       | Contents Description                                     |
|--------|------------|--|
| 12     | 10-10-2002 | Petition to Revive Application - Granted                 |
| 11     | 08-26-2002 | Petition Entered   |
| 10     | 08-13-2002 | Mail Abandonment for Failure to Respond to Office Action |
| 9      | 08-12-2002 | Abandonment for Failure to Respond to Office Action      |
| 8      | 01-17-2002 | Information Disclosure Statement (IDS) Filed             |
| 7      | 01-02-2002 | Mail Non-Final Rejection                                 |
| 6      | 12-28-2001 | Non-Final Rejection                                      |
| 5      | 10-17-2001 | Case Docketed to Examiner in GAU                         |
| 4      | 08-02-2001 | Application Dispatched from OIPE                         |
| 3      | 08-02-2001 | Correspondence Address Change                            |
| 2      | 06-14-2001 | Application Scanned                                      |
| 1      | 06-04-2001 | Initial Exam Team nn                                     |

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Attorney Docket No. 5838-771-CON Initials RJC/MM Date 2/19/2003  
Inventor/Applicant By T. D. FOGAL, JR. Ser. 09823872  
Title METHOD AND SYSTEM FOR TIRE/WHEEL Filed 4/2001

☐ PATENT/DESIGN APPLICATION

\_\_\_\_\_ pgs. Specification  
\_\_\_\_\_ pgs. Claims  
\_\_\_\_\_ Total \_\_\_\_\_ Independent  
\_\_\_\_\_ pgs. Abstract  
\_\_\_\_\_ Sheet(s) of Drawings  
\_\_\_\_\_ Formal \_\_\_\_\_ Informal  
\_\_\_\_\_ Declaration/Power of Attorney  
\_\_\_\_\_ Small Entity Status  
\_\_\_\_\_ Copy of Notice to File Missing Parts  
\_\_\_\_\_ PCT Request  
\_\_\_\_\_ Fee Calculation Sheet  
\_\_\_\_\_ Demand for Prel. Examination  
\_\_\_\_\_ Base Issue Fee  
\_\_\_\_\_ Supplemental Declaration

☐ AMENDMENT (Due \_\_\_\_\_)

\_\_\_\_\_ Extension of Time For \_\_\_\_\_ Month(s)

☐ INFORMATION DISCLOSURE STATEMENT

\_\_\_\_\_ PTO/SB/08A \_\_\_\_\_ Refs.

☐ ASSIGNMENT \_\_\_\_\_ Recordation

☐ CHECK(s) In Amount \$ \_\_\_\_\_

☐ TRANSMITTAL \_\_\_\_\_ New Application

☒ OTHER STATUS INQUIRY

COPY OF PAIR PAGE

**RECEIPT IS HEREBY ACKNOWLEDGED**



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Fogal, Sr., Robert D.

Application No.: 09/873,872

Group No.: 3726

Filed: June 4, 2001

Examiner: Nguyen, T.

For: METHOD AND SYSTEM FOR TIRE/WHEEL DISTURBANCE COMPENSATION

Commissioner for Patents  
Washington, D.C. 20231

TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT  
BEFORE MAILING DATE OF EITHER A FINAL ACTION  
OR NOTICE OF ALLOWANCE (37 C.F.R. § 1.97(c))

TIME OF TRANSMITTAL OF ACCOMPANYING  
INFORMATION DISCLOSURE STATEMENT

1. The information disclosure statement transmitted herewith is being filed *after* three months of the filing date of this national application or the date of entry of the national stage as set forth in Section 1.491 in an international application or after the mailing date of the first Office action on the merits, whichever event occurred last but *before* the mailing date of either

- (1) a final action under § 1.113 or  
(2) a notice of allowance under § 1.311

whichever occurs first.

**CERTIFICATION UNDER 37 C.F.R. §§ 1.8(a) and 1.10\***  
(When using Express Mail, the Express Mail label number is *mandatory*;  
Express Mail certification is optional.)

I hereby certify that, on the date shown below, this correspondence is being:

MAILING

- ☒ deposited with the United States Postal Service in an envelope addressed to the Commissioner for Patents, Washington D.C. 20231  
37 C.F.R. § 1.8(a)  
☒ with sufficient postage as first class mail.

☐ as "Express Mail Post Office to Addressee"  
Mailing Label No. \_\_\_\_\_ (mandatory)

TRANSMISSION

- ☐ facsimile transmitted to the Patent and Trademark Office, (703) \_\_\_\_\_

Date: March 19, 2003

Signature



Robert J. Clark  
(type or print name of person certifying)

\* Only the date of filing (1.6) will be the date used in a patent term adjustment calculation, although the date on any certificate of mailing or transmission under 1.8 continues to be taken into account in determining timeliness. See 1.703(f). Consider "Express Mail Post Office to Addressee" (1.10) or facsimile transmission (1.6(d)) for the reply to be accorded the earliest possible filing date for patent term adjustment calculations.

STATEMENT

2. Accompanying this transmittal is a statement as specified in 37 C.F.R. section 1.97(e).


A duplicate of this paper is attached.

Date: March 19, 2003

Reg. No.: 45,835

Tel. No.: 330-864-5550

Customer No.: 021324

  
\_\_\_\_\_  
Signature of Practitioner

Robert J. Clark  
Hahn Loeser & Parks, LLP  
Twin Oaks Estate  
1225 West Market Street  
Akron, OH 44313-7188



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Robert D. Fogal, Sr.

Application No.: 09/873,872

Group No.: 3726

Filed: June 4, 2001

Examiner: Nguyen, T.

For: METHOD AND SYSTEM FOR TIRE/WHEEL DISTURBANCE COMPENSATION

Commissioner for Patents

Washington, D.C. 20231

STATEMENT FOR INFORMATION DISCLOSURE  
UNDER 37 C.F.R. § 1.97(e)

IDENTIFICATION OF INFORMATION DISCLOSURE STATEMENT  
FOR WHICH THIS STATEMENT IS BEING MADE

1. This statement is being made for the Information Disclosure Statement accompanying this statement.

STATEMENT

2. I, the person signing below, state that each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. 37 C.F.R. § 1.97(e)(1).

IDENTIFICATION OF PERSON MAKING THIS STATEMENT

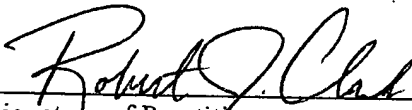
3. The person making this certification is:  
(a) the practitioner who signs below on the basis of the information in the practitioner's file.

Date: March 19, 2003

Reg. No.: 45,835

Tel. No.: 330-864-5550

Customer No.: 021324

  
Signature of Practitioner

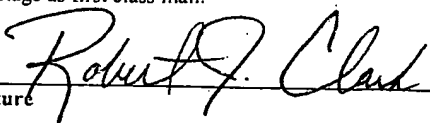
Robert J. Clark  
Hahn Loeser & Parks, LLP  
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CERTIFICATION UNDER 37 C.F.R. §§ 1.8(a) and 1.10\*

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I hereby certify that, on the date shown below, this correspondence is being deposited with the United States Postal Service in an envelope addressed to the Commissioner for Patents, Washington D.C. 20231 with sufficient postage as first class mail.

Date: March 19, 2003

  
Signature

Robert J. Clark  
(type or print name of person certifying)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**Inventor:** Robert D. Fogal, Sr.                      **Examiner:** Nguyen, T.  
**Serial No.:** 09/873,872                      **Art Unit:** 3726  
**Filed:** June 4, 2001                      **Date:** March 19, 2003  
**For:** **METHOD AND SYSTEM FOR TIRE/WHEEL DISTURBANCE  
COMPENSATION**  
**To:** *The Honorable Commissioner  
of Patents and Trademarks  
Washington, D.C. 20231*

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT  
UNDER 37 C.F.R. § 1.97**

This Supplemental Information Disclosure Statement is filed after the mailing date of the first Office Action on the merits, but before the mailing date of either a final action under §1.113 or a notice of allowance under §1.311, and therefore is considered timely under 37 CFR §1.97(c). Accompanying this Supplemental Information Disclosure Statement is a statement as specified in 37 CFR §1.97(e).

According to the terms of 37 CFR §1.97(g), this Supplemental Information Disclosure Statement shall not be construed as a representation that a search has been made, an admission that the information cited is, or is considered to be, material to patentability or that no other material information exists.


The filing of this Supplemental Information Disclosure Statement Under 37 C.F.R. §1.97 shall not be construed as an admission against interest in any manner. Notice of January 9, 1992, 1135 O.G. 13, at 25. This Supplemental Information Disclosure Statement is made to comply

with the duty of candor imposed on all individuals associated with the filing or prosecution of this patent application, as defined by 37 CFR §1.56(c).

A list of five (5) references is enclosed on the PTO/SB/08A and PTO/SB/08B (substitute PTO-1449) forms, which are attached and made a part thereof. Copies of the four (4) references cited in Supplementary European Search Report for European Application No. EP 00 93 2321 dated March 5, 2003, along with a copy of the Search Report are enclosed.

The foregoing Supplemental Information Disclosure Statement Under 37 C.F.R. §1.97 is based on information contained in the undersigned attorney's file as of the filing date of this statement and is inclusive of the best information known to the undersigned as of that date. Prompt consideration of the Information Disclosure Statement Under 37 C.F.R. §1.97 and the references cited therein by the Examiner is respectfully requested.

Respectfully submitted,  
HAHN, LOESER & PARKS, LLP



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Attorney Docket No. 5838-YY-1-CON

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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

*(Use as many sheets as necessary)*

**Complete if Known**

|                        |                      |
|------------------------|----------------------|
| Application Number     | 09/873.872           |
| Filing Date            | 06/04/2001           |
| First Named Inventor   | Robert D. Fogal, Sr. |
| Art Unit               | 3726                 |
| Examiner Name          | Nguyen, T.           |
| Attorney Docket Number | 5838-YY-1-CON        |

|       |   |    |   |
|-------|---|----|---|
| Sheet | 1 | of | 1 |
|-------|---|----|---|

## U. S. PATENT DOCUMENTS

[illegible]

## FOREIGN PATENT DOCUMENTS

| FOREIGN PATENT DOCUMENTS |                       |                           |   |                                |   |   |                |
|--------------------------|-----------------------|---------------------------|---|--------------------------------|---|---|----------------|
| Examiner Initials*       | Cite No. <sup>1</sup> | Foreign Patent Document   |   | Publication Date<br>MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear | T <sup>6</sup> |
|                          |                       | Country Code <sup>3</sup> | Number <sup>4</sup> Kind Code <sup>5</sup> (if known) |                                |   |   |                |
|                          | AC                    | WO                        | 01 68387 A1   | 09/20/2001                     | LeBlanc   | pg 11, line27-pg 13, line3;<br>claims 13-17; figure 5                     |                |
|                          | AD                    | EP                        | 1 063 106 A1  | 12/27/2000                     | Carnehammar Lars Bertil                         | col. 2, line 27-43; claims;<br>col. 4, line 57-col. 6, line 46            |                |
|                          |                       |                           |   |                                |   |   |                |
|                          |                       |                           |   |                                |   |   |                |

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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet

1

of

1

Application Number

09/873.872

Filing Date

06/04/2001

**First Named Inventor**

**Robert D. Fogal, Sr.**

Art Unit

3726

Examiner Name

Nguyen, T.

Attorney Docket Number

5838-YY-1-CON

## OTHER PRIOR ART-NON PATENT LITERATURE DOCUMENTS

[illegible]

|                       |  |                    |  |
|-----------------------|--|--------------------|--|
| Examiner<br>Signature |  | Date<br>Considered |  |
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Commissioner for Patents, Washington, DC 20231.**

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US005540767A

**United States Patent** [19]**Ronlan**[11] **Patent Number:** **5,540,767**[45] **Date of Patent:** **Jul. 30, 1996**[54] **TIRE BALANCING COMPOSITION AND METHOD OF BALANCING A TIRE USING THE SAME**[75] **Inventor:** **Alvin Ronlan, Fort Lauderdale, Fla.**[73] **Assignee:** **Lars Bertil, Carnehammar**[21] **Appl. No.:** **500,186**[22] **Filed:** **Jul. 10, 1995****Related U.S. Application Data**[62] **Division of Ser. No. 738,885, Aug. 1, 1991, Pat. No. 5,431,726.**[30] **Foreign Application Priority Data**

Nov. 9, 1990 [SE] Sweden ..... 9003577

[51] **Int. Cl.<sup>6</sup>** ..... **C09D 5/00; C09D 191/00; C09D 199/00**[52] **U.S. Cl.** ..... **106/287.35; 106/243; 106/253; 106/266; 106/285; 106/287.16; 106/287.26; 106/287.34; 106/33; 152/154.1; 523/166**[58] **Field of Search** ..... **106/243, 33, 253, 106/266, 285, 287.16, 287.26, 287.34, 287.35; 152/154.1; 523/166**[56] **References Cited****U.S. PATENT DOCUMENTS**

|           |         |                |         |
|-----------|---------|----------------|---------|
| 2,856,301 | 10/1958 | Badger et al.  | 106/33  |
| 3,402,237 | 9/1968  | Holzinger      | 264/272 |
| 3,453,127 | 7/1969  | Marotta et al. | 106/192 |

|           |         |                  |           |
|-----------|---------|------------------|-----------|
| 3,755,189 | 8/1973  | Gilchrist et al. | 252/316   |
| 4,051,884 | 10/1977 | Bourne et al.    | 152/330   |
| 4,383,783 | 5/1983  | Kruka et al.     | 405/171   |
| 4,474,608 | 10/1984 | Goldberg         | 106/250   |
| 4,867,792 | 9/1989  | Ronlan           | 106/189   |
| 4,981,608 | 1/1991  | Gunther          | 252/315.2 |
| 5,098,609 | 3/1992  | Iruvanti et al.  | 252/511   |
| 5,431,726 | 7/1995  | Ronlan           | 106/266   |

**FOREIGN PATENT DOCUMENTS**

|         |         |                 |
|---------|---------|-----------------|
| 1442526 | 12/1988 | Sweden.         |
| 654858  | 7/1951  | United Kingdom. |

**OTHER PUBLICATIONS**

PCT Search Report of (May 21, 1991) for PCT/SE91/00673 based on SE 9003577-5.

*Primary Examiner*—David Brunsman*Attorney, Agent, or Firm*—Eckert Seamans Cherin & Mellott[57] **ABSTRACT**

A tire gel balancing composition having a Storage modulus of between 3000 and 15000 Pa and the Specific Gravity less than 1000 kg/m<sup>3</sup> in the temperature range between -20° and +90° C., preferably its Storage modulus is about 9000 Pa, is capable of balancing tires by being able to flow under the vibrations caused by imbalance in a wheel assembly. The composition preferably comprises a mixture of: 1) paraffinic oils, polybutene oils, polyol esters or polyol ethers; 2) hydrophobic or hydrophilic fumed silica; 3) poly-alkyl-methacrylates, styrene-ethylene-propylene block copolymers or polyhydroxycarboxyl acid derivatives; and optionally corrosion inhibitors and antioxidants.

**14 Claims, 2 Drawing Sheets**



US006249971B1

(12) **United States Patent**  
**Fogal, Sr.**

(10) Patent No.: **US 6,249,971 B1**(45) Date of Patent: **Jun. 26, 2001**

(54) **METHOD AND SYSTEM FOR TIRE/WHEEL  
DISTURBANCE COMPENSATION**

(76) Inventor: **Robert D. Fogal, Sr.**, 15 Kenwood Rd.,  
Chambersburg, PA (US) 17201

(\*) Notice: Subject to any disclaimer, the term of this  
patent is extended or adjusted under 35  
U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/310,594**

(22) Filed: **May 12, 1999**

**Related U.S. Application Data**

(60) Provisional application No. 60/085,163, filed on May 12,  
1998.

(51) Int. Cl.<sup>7</sup> ..... **B21D 53/26**

(52) U.S. Cl. .... **29/894.31; 29/424**

(58) Field of Search ..... **152/154.1; 156/75;**  
**301/5.21, 5.22; 29/423, 424, 802, 894.31,**  
**894.37, 428, 426.4**

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

|           |   |         |                   |
|-----------|---|---------|-------------------|
| 2,080,227 | * | 5/1937  | Periat et al.     |
| 2,909,389 | * | 10/1959 | Wilborn           |
| 3,085,924 | * | 4/1963  | Nichols           |
| 3,256,123 | * | 6/1966  | Hart              |
| 3,463,551 | * | 8/1969  | Clay              |
| 3,716,093 | * | 2/1973  | Tsuchiya          |
| 3,987,833 | * | 10/1976 | Powell et al.     |
| 4,027,712 | * | 6/1977  | Verdier           |
| 4,179,162 | * | 12/1979 | Zarlengo          |
| 4,269,451 | * | 5/1981  | Narang            |
| 5,073,217 | * | 12/1991 | Fogal             |
| 5,237,505 | * | 8/1993  | Beebe             |
| 5,386,857 | * | 2/1995  | Fogal, Sr. et al. |
| 5,472,023 | * | 12/1995 | Fogal, Sr. et al. |
| 5,766,501 | * | 6/1998  | Heffernan et al.  |

|           |   |         |                  |
|-----------|---|---------|------------------|
| 6,052,885 | * | 4/2000  | Carmien          |
| 6,128,952 | * | 10/2000 | LeBlanc          |
| 6,129,797 | * | 10/2000 | Heffernan et al. |

\* cited by examiner

*Primary Examiner*—S. Thomas Hughes

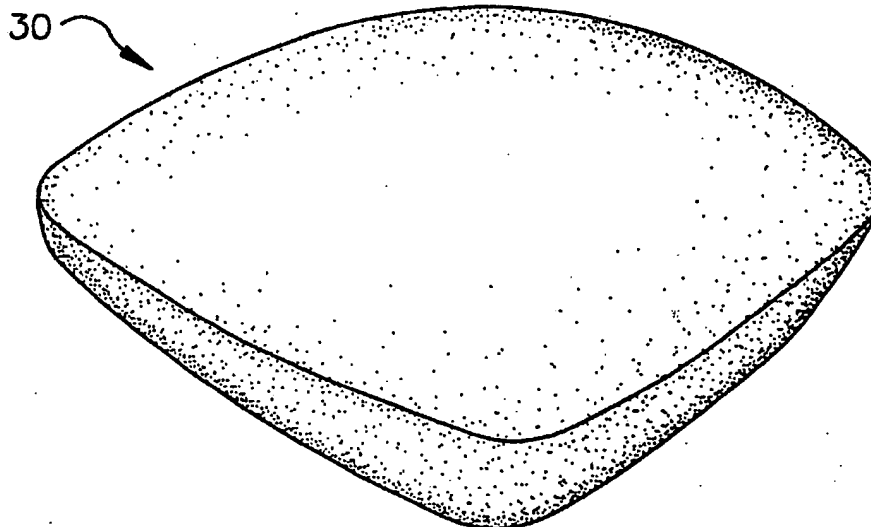
*Assistant Examiner*—Trinh Nguyen

(74) *Attorney, Agent, or Firm*—Oldham & Oldham Co.,  
LPA

(57) **ABSTRACT**

The invention is directed to a method for introducing a compensating material into a tire/wheel assembly by providing at least one self-contained batch of a compensating material having a predetermined amount of such material and being selectively transferable into a tire. The at least one batch of material remains substantially self-contained for shipping and handling. The at least one batch is then transferred into the tire, and the tire is thereafter mounted onto a vehicle for operation or otherwise rotated wherein the at least one self-contained batch of material disperses the material within the tire upon rotation. The invention is also directed to a system for introducing a compensating material into a tire/wheel assembly, wherein a predetermined amount of a compensating material in a self-contained batch which remains substantially self-contained during handling, is introduced into a tire prior to assembly with a wheel, and thereafter disperses within the tire during rotation of the tire/wheel assembly. There is further provided a method of compensating for radial and lateral force variations at the tire/road footprint of a tire/wheel assembly comprising the steps of determining the size of a tire in a tire/wheel assembly and selecting at least one self-contained batch of a compensating material to provide a predetermined amount of compensating material for introduction into the interior of the tire. The predetermined amount of compensating material is introduced into the tire and then disperses upon rotation of the tire/wheel assembly.

**29 Claims, 3 Drawing Sheets**



(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
20 September 2001 (20.09.2001)

PCT

(10) International Publication Number  
**WO 01/68387 A1**

(51) International Patent Classification<sup>7</sup>: **B60C 19/00**,  
F16F 15/36

(21) International Application Number: PCT/CA00/01488

(22) International Filing Date:  
11 December 2000 (11.12.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/188,708 13 March 2000 (13.03.2000) US

(71) Applicant and

(72) Inventor: **LEBLANC, Roger** [CA/CA]; R.R.#1, Georgetown, Ontario L7G 4S4 (CA).

(81) Designated States (*national*): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

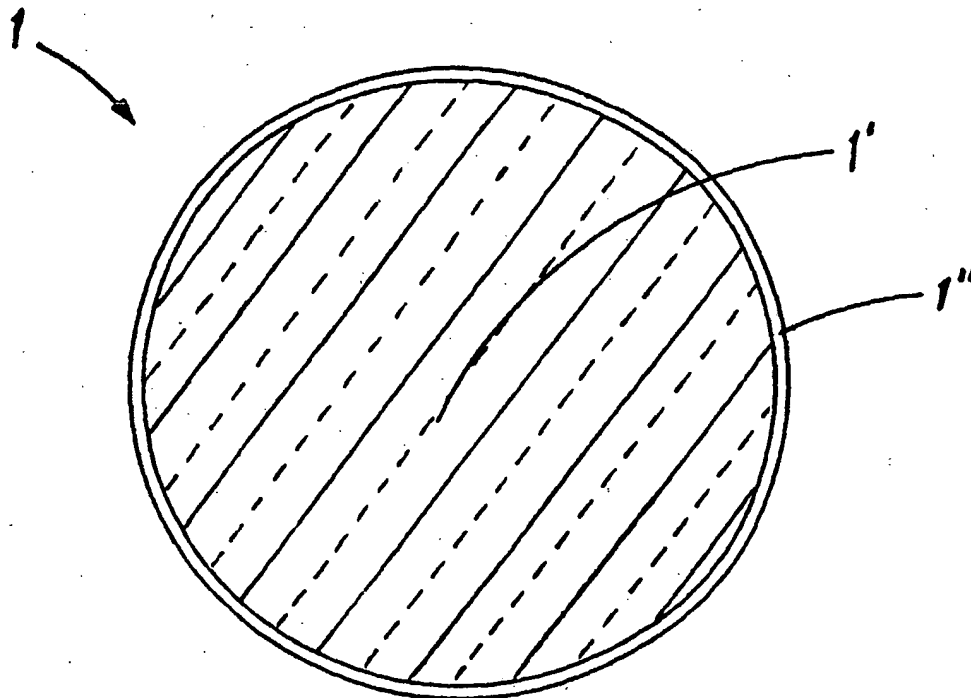
Published:

— with international search report

(74) Agent: **ARMSTRONG, R. Craig**; Armstrong & Associates, 285 Fountain Street South, Cambridge, Ontario H3H 1J2 (CA).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

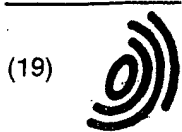
(54) Title: TIRE BALANCING USING COATED BEADS



(57) Abstract: A vehicle tire balancing material comprising beads (1) formed from a first material (1') having a higher tribo-electric work function, the beads (1) further having a permanent coating (1'') formed from a second material having a lower tribo-electric work function.

WO 01/68387 A1





(19)

Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 1 063 106 A1

(12)

## EUROPEAN PATENT APPLICATION

(43) Date of publication:  
27.12.2000 Bulletin 2000/52

(51) Int Cl.7: B60C 19/00, G01M 1/32

(21) Application number: 99112199.7

(22) Date of filing: 24.06.1999

(84) Designated Contracting States:  
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU  
MC NL PT SE  
Designated Extension States:  
AL LT LV MK RO SI

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## (54) Tyre balancing compositions

(57) The invention relates to tyre balancing compositions having improved balancing properties comprise a visco-plastic gel and solid bodies having an average smallest dimension in the range of 0.5-5 mm; preferably 1-4 mm, more preferably around 3 mm. When applied in a layer to the inside of a motor vehicle tyre, the compositions act by allowing the solid bodies move through the gel and to concentrate in areas to counteract imbalances. The solid bodies preferably have an average ratio  $\alpha$  between their smallest and their largest dimension of  $\alpha \leq 2$ , more preferably  $\alpha \leq 1.5$ , especially around 1. The visco-plastic gel preferably has a storage modulus ( $G'$ ) between 1000 Pa and 25000 Pa at 22°C, a loss

modulus ( $G''$ ) smaller than the storage modulus, and a critical yield stress above 3 Pa at 22°C. The bodies may be shaped as prolate or oblate ellipsoids, cylinders, rectangular parallelepipeds, or spheres, or mixtures of such bodies; they may have an apparent specific gravity in the range of 500-3000 kg/m<sup>3</sup>, preferably 600-2000 kg/m<sup>3</sup>, in particular 700-1000 kg/m<sup>3</sup>, especially 800-900 kg/m<sup>3</sup>; they may be made from polyolefins, polystyrene, polyvinyl chloride, polyamide, rubber or glass. The weight ratio between the solid bodies and the gel is from 10:1 to 1:10, preferably from 5:1 to 1:5, in particular from 2:1 to 3:1, such as from 1:1 to 1:2. The invention further concerns a tyre balancing kit and a method for balancing automobile wheel assemblies.



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Patentamt

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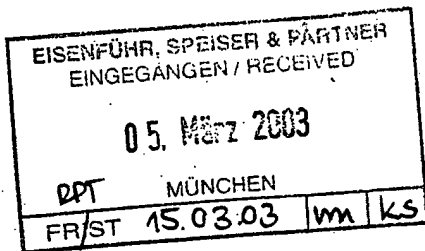
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Datum/Date

05.03.03

eichen/Ref./Réf.

IM5076

Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°

00932321.3-1253-US0012977

nmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire

INTERNATIONAL MARKETING INCORPORATED

## COMMUNICATION

The European Patent Office herewith transmits as an enclosure the European search report for the above-mentioned European patent application.

If applicable, copies of the documents cited in the European search report are attached.

☒ Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

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| DOCUMENTS CONSIDERED TO BE RELEVANT  |  |  |   |
|--|--|--|---|
| Category   | Citation of document with indication, where appropriate, of relevant passages  | Relevant to claim  | CLASSIFICATION OF THE APPLICATION (Int.Cl.7)                              |
| E  | WO 01 68387 A (LEBLANC ROGER)<br>20 September 2001 (2001-09-20)<br><br>* page 11, line 27 - page 13, line 3;<br>claims 13-17; figure 5 *<br>---                          | 1-3, 5, 6,<br>8-11, 16,<br>18-20,<br>22, 23  | B32B31/00<br>B60C19/00<br>B60B1/00<br>B23P11/00<br>F16F15/36<br>F16F15/32 |
| E  | US 6 249 971 B1 (FOGAL SR ROBERT D)<br>26 June 2001 (2001-06-26)<br>* the whole document *<br>---  | 1-24   |   |
| E  | EP 1 063 106 A (CARNEHAMMAR LARS BERTIL)<br>27 December 2000 (2000-12-27)<br>* column 2, line 27 - line 43; claims *<br>* column 4, line 57 - column 6, line 46 *<br>--- | 1-3, 6-8,<br>11, 16, 17  |   |
| X  | US 5 540 767 A (RONLAN ALVIN)<br>30 July 1996 (1996-07-30)<br>* column 5, line 40 - line 47 *<br>* column 7, line 6 - line 50 *<br>-----                                 | 1, 7, 17   |   |
|  |  |  | TECHNICAL FIELDS<br>SEARCHED (Int.Cl.7)                                   |
|  |  |  | B60C<br>F16F  |
| The supplementary search report has been based on the last set of claims valid and available at the start of the search.   |  |  |   |
| Place of search<br><b>THE HAGUE</b>  |  | Date of completion of the search<br><b>21 February 2003</b>  | Examiner<br><b>Baradat, J-L</b>   |
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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 93 2321

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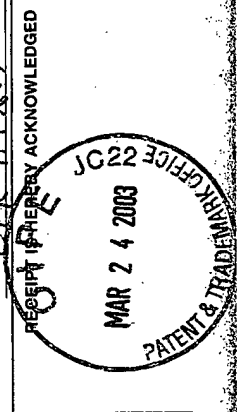
21-02-2003

| Patent document<br>cited in search report |    | Publication<br>date | Patent family<br>member(s) |               | Publication<br>date |
|---|----|---------------------|----------------------------|---------------|---------------------|
| WO 0168387                                | A  | 20-09-2001          | AU                         | 1848501 A     | 24-09-2001          |
|   |    |                     | BR                         | 0017172 A     | 14-01-2003          |
|   |    |                     | WO                         | 0168387 A1    | 20-09-2001          |
|   |    |                     | EP                         | 1282530 A1    | 12-02-2003          |
| US 6249971                                | B1 | 26-06-2001          | AU                         | 5006000 A     | 21-11-2000          |
|   |    |                     | CN                         | 1361728 T     | 31-07-2002          |
|   |    |                     | EP                         | 1181154 A1    | 27-02-2002          |
|   |    |                     | WO                         | 0068008 A1    | 16-11-2000          |
|   |    |                     | US                         | 2001052185 A1 | 20-12-2001          |
| EP 1063106                                | A  | 27-12-2000          | EP                         | 1063106 A1    | 27-12-2000          |
|   |    |                     | AU                         | 5390800 A     | 31-01-2001          |
|   |    |                     | CN                         | 1362919 T     | 07-08-2002          |
|   |    |                     | WO                         | 0100430 A1    | 04-01-2001          |
|   |    |                     | EP                         | 1196299 A1    | 17-04-2002          |
|   |    |                     | HU                         | 0201802 A2    | 28-09-2002          |
|   |    |                     | NO                         | 20016305 A    | 12-02-2002          |
|   |    |                     | TR                         | 200103750 T2  | 23-12-2002          |
| US 5540767                                | A  | 30-07-1996          | TW                         | 459106 B      | 11-10-2001          |
|   |    |                     | SE                         | 500179 C2     | 02-05-1994          |
|   |    |                     | AT                         | 142684 T      | 15-09-1996          |
|   |    |                     | BR                         | 9104740 A     | 23-06-1992          |
|   |    |                     | DE                         | 69122119 D1   | 17-10-1996          |
|   |    |                     | DE                         | 69122119 T2   | 30-01-1997          |
|   |    |                     | DK                         | 557365 T3     | 30-09-1996          |
|   |    |                     | EP                         | 0557365 A1    | 01-09-1993          |
|   |    |                     | ES                         | 2091950 T3    | 16-11-1996          |
|   |    |                     | GR                         | 3021967 T3    | 31-03-1997          |
|   |    |                     | SE                         | 9003577 A     | 10-05-1992          |
|   |    |                     | WO                         | 9208775 A1    | 29-05-1992          |
|   |    |                     | SG                         | 52524 A1      | 28-09-1998          |
|   |    |                     | US                         | 5431726 A     | 11-07-1995          |

Attorney Docket No. 5838-YY-1-CO1 Initials BSC/HAM Date 3/19/2003  
Inventor/Applicant J. D. FOSAL, JR. S 09/29/97R  
Title METHOD AND SYSTEM FOR TIRE/WHEEL Filed 4/2/001

☐ PATENT/DESIGN APPLICATION  
\_\_\_\_\_ pgs. Specification  
\_\_\_\_\_ pgs. Claims  
\_\_\_\_\_ Total \_\_\_\_\_ Independent  
\_\_\_\_\_ pgs. Abstract  
\_\_\_\_\_ Sheet(s) of Drawings  
\_\_\_\_\_ Formal \_\_\_\_\_ Informal  
\_\_\_\_\_ Declaration/Power of Attorney  
\_\_\_\_\_ Small Entity Status  
\_\_\_\_\_ Copy of Notice to File Missing Parts  
\_\_\_\_\_ PCT Request  
\_\_\_\_\_ Fee Calculation Sheet  
\_\_\_\_\_ Demand for Prel. Examination  
\_\_\_\_\_ Base Issue Fee  
\_\_\_\_\_ Supplemental Declaration

☐ AMENDMENT (Due \_\_\_\_\_)  
\_\_\_\_\_ Extension of Time For \_\_\_\_\_ Month(s)  
☒ INFORMATION DISCLOSURE STATEMENT  
☒ PTO/SB/08A 5 Rel.  
☐ ASSIGNMENT PT 364/04 Recordation  
☐ CHECK(s) in Amount \$ \_\_\_\_\_  
☒ TRANSMITTAL \_\_\_\_\_ New Application  
☒ OTHER STATEMENT FOR INFORMATION  
DISCLOSURE UNDER  
35 USC 119(c)



**ELECTRONIC INFORMATION DISCLOSURE STATEMENT**

Electronic Version v18

Stylesheet Version v18.0

**Title of  
Invention****METHOD AND SYSTEM FOR TIRE/WHEEL DISTURBANCE  
COMPENSATION**

Application Number: 09/873872

**\*09/873872\***

Confirmation Number: 4552

First Named Applicant: Robert Fogal

Attorney Docket Number: 5838-YY-1-CON

Art Unit: 3726

Examiner: Mr. Trinh T. Nguyen

Search string: ( 3085924 or 3256123 or 3716093 or 3987833 or 6052885 ).pn.

**US Patent Documents**

Note: Applicant is not required to submit a paper copy of cited US Patent Documents

| init | Cite.No. | Patent No. | Date       | Patentee      | Kind | Class | Subclass |
|------|----------|------------|------------|---------------|------|-------|----------|
|      | 1        | 3085924    | 1963-04-16 | Nichols       |      |       |          |
|      | 2        | 3256123    | 1966-06-14 | Hart          |      |       |          |
|      | 3        | 3716093    | 1973-02-13 | Tsuchiya      |      |       |          |
|      | 4        | 3987833    | 1976-10-26 | Powell et al. |      |       |          |
|      | 5        | 6052885    | 2000-04-25 | Carmien       |      |       |          |

**Signature****Examiner Name****Date**

**FEE TRANSMITTAL**

Electronic Version v08

Stylesheet Version v08.0

**Title of  
Invention****METHOD AND SYSTEM FOR TIRE/WHEEL DISTURBANCE  
COMPENSATION**

Application Number: 09/873872 \*09/873872\*  
Date: 2003-06-19  
First Named Applicant: Mr. Robert D. Fogal Sr.  
Attorney Docket Number: 5838-YY-1-CON  
Art Unit: 3726  
Examiner: Mr. Trinh T. Nguyen

**TOTAL FEE AUTHORIZED \$180**

Patent fees are subject to annual revisions on or about October 1st of each year.

**BASIC FILING FEE**

| Fee Description                               | Fee Code | Amount \$ | Fee Paid \$ |
|---|----------|-----------|-------------|
| Submission Of Information Disclosure Stmt Fee | 1806     | 180       | 180         |

**AUTHORIZED BILLING INFORMATION**

The commissioner is hereby authorized to charge indicated fees and credit any overpayments to:

Deposit account number: 150450  
Access Code \*\*\*\*  
Deposit name: HLP  
Deposit authorized name: Robert J. Clark  
Signature: RJC  
Date (YYYYMMDD): 2003-06-19

Charge Any Additional Fee Required Under 37 C.F.R. Sections 1.16 and 1.17.

**UNITED STATES PATENT AND TRADEMARK OFFICE  
ACKNOWLEDGEMENT RECEIPT**

Electronic Version 1.1

Stylesheet Version v1.1.1

**Title of  
Invention**

**METHOD AND SYSTEM FOR TIRE/WHEEL DISTURBANCE  
COMPENSATION**

Submission Type: Information Disclosure Statement

Application Number: 09/873872

**\*09/873872\***

EFS ID: 42143

Server Response:

| Confirmation Code | Message   |
|-------------------|---|
| ISVR1             | Submission was successfully submitted - Even if Informational or Warning Messages appear below, please do not resubmit this application   |
| ICON1             | 4552  |
| ISYS5             | Filename= N/A BusinessRule= Validation System/Function Call Information. #Supporting Msg:Server unable to validate the Confirmaton/Application numbers at this time. They will be checked by PTO personnel later. |

First Named Applicant: Robert Fogal

Attorney Docket Number: 5838-YY-1-CON

Timestamp: 2003-06-19 14:02:01 EDT

From: us

File Listing:

| Doc. Name        | File Name              | Size (Bytes) |
|------------------|------------------------|--------------|
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| us-fee-sheet     | us-fee-sheet.xsl       | 24912        |
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| us-ids           | 20030619ids-usidst.xml | 1731         |
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| us-ids           | us-ids.xsl             | 12026        |
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| package-data     | package-data.dtd       | 27025        |
| package-data     | us-package-data.xsl    | 19263        |
| Total files size |                        | 107646       |

Message Digest: beada54454495a1b555f42a9d20bb680764198cf



Digital Certificate Holder Name: cn=Robert Jeffrey Clark,ou=Registered Attorneys,ou=Patent and Trademark Office,ou=Department of Commerce,o=U.S. Government,c=US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Robert D. Fogal, Sr.

Application No.: 09/873,872

Group No.: 3726

Filed: 06/04/2001

Examiner: Nguyen, T.

For: METHOD AND SYSTEM FOR TIRE/WHEEL DISTURBANCE COMPENSATION

Mail Stop Status Inquiry  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

STATUS INQUIRY

1. Seventeen months have passed since the filing of a Petition to Withdraw Abandonment on August 19, 2002, fifteen months have passed since the Petition to Revive Application was granted by the United States Patent & Trademark Office, and eleven months have passed since the filing of a first Status Inquiry on February 19, 2003. The status in the Patent Application Information Retrieval system still indicates that the application is "Abandoned -- Failure to Respond to Office Action".

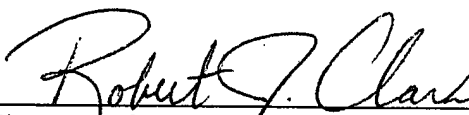
2. Kindly advise the undersigned of the present status of this application, by checking the appropriate box on the next page. A stamped return-addressed envelope is provided.

Date: January 9, 2004

Reg. No.: 45,835

Tel. No.: 330-864-5550

Customer No.: 021324

  
\_\_\_\_\_  
Signature of Practitioner

Robert J. Clark  
Hahn, Loeser & Parks, LLP  
Twin Oaks Estate  
1225 West Market Street  
Akron, OH 44313-7188

CERTIFICATION UNDER 37 C.F.R. §§ 1.8(a) and 1.10\*

I hereby certify that, on the date shown below, this correspondence is being:

MAILING

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37 C.F.R. § 1.8(a)

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☐ facsimile transmitted to the Patent and Trademark Office, (703) \_\_\_\_\_

  
\_\_\_\_\_  
Signature

Robert J. Clark

(type or print name of person certifying)

Date: January 9, 2004

**STATUS INQUIRY REPLY**

APPLICATION NO. 09/873,872 IS CURRENTLY

☐ ASSIGNED TO GROUP \_\_\_\_\_ AND AWAITS:

☐ ACTION BY THE EXAMINER.

☐ APPLICANT'S RESPONSE TO THE OFFICE ACTION MAILED

---

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Attorney Docket No. 5888-YYJen Initials ASC/MAN Date 1/3/2001  
Inventor/Applicant ROBERT V. FOSAL, JR. Ser. 27993, 772  
Title METHOD FOR REPAIRING WHEELS Filed 1/4/2001



☐ PATENT/DESIGN APPLICATION ☐ AMENDMENT (Due \_\_\_\_\_)  
\_\_\_\_ pgs. Specification \_\_\_\_\_ Extension of Time For \_\_\_\_\_ Month(s)  
\_\_\_\_ pgs. Claims \_\_\_\_\_  
\_\_\_\_ Total \_\_\_\_\_ Indented \_\_\_\_\_  
\_\_\_\_ pgs. Abstract \_\_\_\_\_  
\_\_\_\_ Sheet(s) of Drawings \_\_\_\_\_  
\_\_\_\_ Formal \_\_\_\_\_ Informal \_\_\_\_\_  
\_\_\_\_ Declaration/Power of Attorney \_\_\_\_\_  
\_\_\_\_ Small Entity Status \_\_\_\_\_  
\_\_\_\_ Copy of Notice to File Missing Parts \_\_\_\_\_  
\_\_\_\_ PCT Request \_\_\_\_\_  
\_\_\_\_ Fee Calculation Sheet \_\_\_\_\_  
\_\_\_\_ Demand for Prel. Examination \_\_\_\_\_  
\_\_\_\_ Base Issue Fee \_\_\_\_\_  
\_\_\_\_ Supplemental Declaration \_\_\_\_\_

☐ INFORMATION DISCLOSURE STATEMENT

☐ ASSIGNMENT \_\_\_\_\_ PTO/SB/08A \_\_\_\_\_ Rel's. \_\_\_\_\_  
☐ CHECK(s) in Amount \$ \_\_\_\_\_  
☐ TRANSMITTAL \_\_\_\_\_ New Application \_\_\_\_\_  
☒ OTHER STATUS IN ADVISORY

RECEIPT IS HEREBY ACKNOWLEDGED



# UNITED STATES PATENT AND TRADEMARK OFFICE

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United States Patent and Trademark Office  
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Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NUMBER | PATENT NUMBER | GROUP ART UNIT | FILE WRAPPER LOCATION |
|--------------------|---------------|----------------|-----------------------|
| 09/873,872         |               | 3726           | 37D1                  |

## Change of Address/Power of Attorney

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- Maintenance Fee Address

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HAHN LOESER & PARKS, LLP  
One GOJO Plaza  
Suite 300  
AKRON, OH 44311-1076

The Practitioners of record for Customer Number 021324 are:

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Robert D. Fogal, Sr.

Application No.: 09/873,872

Filed: 06/04/2001

For: METHOD AND SYSTEM FOR TIRE/WHEEL DISTURBANCE COMPENSATION

Group No.: 3644

Examiner: Nguyen, Trinh T.

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

STATUS INQUIRY

1. Five years have passed since the filing of this application on June 4, 2001. Forty-six (46) months have passed since the filing of a Petition to Withdraw Abandonment on August 19, 2002; forty-four (44) months have passed since the Petition to Revive Application was granted by the United States Patent & Trademark Office on October 10, 2002; forty (40) months have passed since the filing of a first Status Inquiry on February 19, 2003; and twenty-nine (29) months have passed since the filing of a second Status Inquiry on January 9, 2004. The status in the Patent Application Information Retrieval system still indicates that the application is "Abandoned -- Failure to Respond to Office Action", although it shows that the case was docketed to an Examiner on January 28, 2005 (seventeen (17) months ago).

2. Kindly advise the undersigned of the present status of this application, by checking the appropriate box on the next page.

Date: June 20, 2006

Reg. No.: 45,835

Tel. No.: 330-864-5550

Customer No.: 021324



Signature of Practitioner

Robert J. Clark

Hahn Loeser & Parks, LLP

One GOJO Plaza

Suite 300

Akron, OH 44311-1076

**CERTIFICATION UNDER 37 C.F.R. §§ 1.8(a) and 1.10\***

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*Express Mail certification is optional.)*

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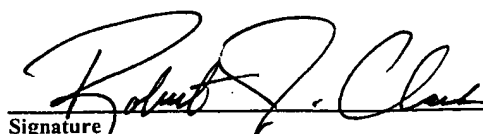
**37 C.F.R. § 1.10\***

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**TRANSMISSION**

☒ electronically transmitted to the Patent and Trademark Office.



Signature

Robert J. Clark

*(type or print name of person certifying)*

Date: June 20, 2006

**STATUS INQUIRY REPLY**

APPLICATION NO. 09/873,872 IS CURRENTLY

☐ ASSIGNED TO GROUP \_\_\_\_\_ AND AWAITS:

☐ ACTION BY THE EXAMINER.

☐ APPLICANT'S RESPONSE TO THE OFFICE ACTION MAILED

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## Electronic Acknowledgement Receipt

|  |   |
|--|---|
| <b>EFS ID:</b>                           | 1084989   |
| <b>Application Number:</b>               | 09873872  |
| <b>Confirmation Number:</b>              | 4552  |
| <b>Title of Invention:</b>               | Method and system for tire/whell disturbance compensation |
| <b>First Named Inventor:</b>             | Robert D. Fogal   |
| <b>Customer Number:</b>                  | 21324   |
| <b>Filer:</b>                            | Robert Jeffrey Clark                                      |
| <b>Filer Authorized By:</b>              |   |
| <b>Attorney Docket Number:</b>           | 5838-YY-1-CON   |
| <b>Receipt Date:</b>                     | 20-JUN-2006   |
| <b>Filing Date:</b>                      | 04-JUN-2001   |
| <b>Time Stamp:</b>                       | 15:14:03  |
| <b>Application Type:</b>                 | Utility   |
| <b>International Application Number:</b> |   |

### Payment information:

|                        |    |
|------------------------|----|
| Submitted with Payment | no |
|------------------------|----|

### File Listing:

| Document Number | Document Description              | File Name            | File Size(Bytes) | Multi Part | Pages |
|-----------------|-----------------------------------|----------------------|------------------|------------|-------|
| 1               | Request for status of Application | 3rdstatusinquiry.pdf | 76118            | no         | 2     |



**Warnings:**

**Information:**

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76118

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Robert D. Fogal, Sr.

Application No.: 09/873,872

Group No.: 3644

Filed: 06/04/2001

Examiner: Nguyen, Trinh T.

For: METHOD AND SYSTEM FOR TIRE/WHEEL DISTURBANCE COMPENSATION

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

STATUS INQUIRY

1. Six years have passed since the filing of this application on June 4, 2001. Fifty-eight (58) months have passed since the filing of a Petition to Withdraw Abandonment on August 19, 2002; fifty-six (56) months have passed since the Petition to Revive Application was granted by the United States Patent & Trademark Office on October 10, 2002; fifty-two (52) months have passed since the filing of a first Status Inquiry on February 19, 2003; and forty-one (41) months have passed since the filing of a second Status Inquiry on January 9, 2004; and twelve (12) months have passed since the filing of a third Status Inquiry on June 20, 2006. The status in the Patent Application Information Retrieval system still indicates that the application is "Abandoned -- Failure to Respond to Office Action", although it shows that the case was docketed to an Examiner on January 28, 2005 (twenty-nine (29) months ago).

2. Kindly advise the undersigned of the present status of this application, by checking the appropriate box on the next page.

Date: June 19, 2007

Reg. No.: 54,714

Tel. No.: 330-864-5550

Customer No.: 021324

  
Signature of Practitioner

Bret A. Hrivnak

Hahn Loeser & Parks, LLP

One GOJO Plaza

Suite 300

Akron, OH 44311-1076

**CERTIFICATION UNDER 37 C.F.R. §§ 1.8(a) and 1.10\***

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37 C.F.R. § 1.10\*

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**TRANSMISSION**

☒ electronically transmitted to the Patent and Trademark Office.

  
Signature

Date: June 19, 2007

Bret A. Hrivnak

*(type or print name of person certifying)*

## STATUS INQUIRY REPLY

APPLICATION NO. 09/873,872 IS CURRENTLY

☐ ASSIGNED TO GROUP \_\_\_\_\_ AND AWAITS:

☐ ACTION BY THE EXAMINER.

☐ APPLICANT'S RESPONSE TO THE OFFICE ACTION MAILED

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## Electronic Acknowledgement Receipt

|   |   |
|---|---|
| <b>EFS ID:</b>                              | 1886162   |
| <b>Application Number:</b>                  | 09873872  |
| <b>International Application Number:</b>    |   |
| <b>Confirmation Number:</b>                 | 4552  |
| <b>Title of Invention:</b>                  | Method and system for tire/whell disturbance compensation |
| <b>First Named Inventor/Applicant Name:</b> | Robert D. Fogal   |
| <b>Customer Number:</b>                     | 21324   |
| <b>Filer:</b>                               | Bret Alan Hrivnak/Georgann Testa                          |
| <b>Filer Authorized By:</b>                 | Bret Alan Hrivnak   |
| <b>Attorney Docket Number:</b>              | 115838.00056  |
| <b>Receipt Date:</b>                        | 19-JUN-2007   |
| <b>Filing Date:</b>                         | 04-JUN-2001   |
| <b>Time Stamp:</b>                          | 13:47:04  |
| <b>Application Type:</b>                    | Utility   |

### Payment information:

|                        |    |
|------------------------|----|
| Submitted with Payment | no |
|------------------------|----|

### File Listing:

| Document Number | Document Description              | File Name               | File Size(Bytes) | Multi Part /.zip | Pages (if appl.) |
|-----------------|-----------------------------------|-------------------------|------------------|------------------|------------------|
| 1               | Request for status of Application | StatusInquiry061907.PDF | 76894            | no               | 2                |

### Warnings:

**Information:****Total Files Size (in bytes):**

76894

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Robert D. Fogal, Sr.

Application No.: 09/873,872

Group No.: 3644

Filed: 06/04/2001

Examiner: Nguyen, Trinh T.

For: METHOD AND SYSTEM FOR TIRE/WHEEL DISTURBANCE COMPENSATION

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

STATUS INQUIRY

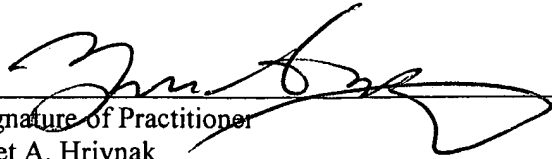
1. Seven years have passed since the filing of this application on June 4, 2001.  
Seventy-four (74) months have passed since the filing of a Petition to Withdraw Abandonment on August 19, 2002;  
seventy-two (72) months have passed since the Petition to Revive Application was granted by the United States Patent & Trademark Office on October 10, 2002;  
sixty-five (65) months have passed since the filing of a first Status Inquiry on February 19, 2003;  
fifty-two (52) months have passed since the filing of a second Status Inquiry on January 9, 2004;  
twenty-seven (27) months have passed since the filing of a third Status Inquiry on June 20, 2006.  
and fifteen (15) months have passed since the filing of the fourth Status Inquiry on June 19, 2007.

The status in the Patent Application Information Retrieval system still indicates that the application is "Abandoned -- Failure to Respond to Office Action", although it shows that the case was docketed to an Examiner on January 28, 2005 (forty (40) months ago).

2. Kindly advise the undersigned of the present status of this application, by checking the appropriate box on the attached page and returning it via facsimile to my attention at 330-864-7986.

Date: 10.22.08

Reg. No.: 54,714  
Tel. No.: 330-864-5550  
Customer No.: 021324

  
Signature of Practitioner  
Bret A. Hrivnak  
Hahn Loeser & Parks, LLP  
One GOJO Plaza  
Suite 300  
Akron, OH 44311-1076

## STATUS INQUIRY REPLY

APPLICATION NO. 09/873,872 IS CURRENTLY

☐ ASSIGNED TO GROUP \_\_\_\_\_ AND AWAITS:

☐ ACTION BY THE EXAMINER.

☐ APPLICANT'S RESPONSE TO THE OFFICE ACTION MAILED

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## Electronic Acknowledgement Receipt

|   |   |
|---|---|
| <b>EFS ID:</b>                              | 4157530   |
| <b>Application Number:</b>                  | 09873872  |
| <b>International Application Number:</b>    |   |
| <b>Confirmation Number:</b>                 | 4552  |
| <b>Title of Invention:</b>                  | Method and system for tire/whell disturbance compensation |
| <b>First Named Inventor/Applicant Name:</b> | Robert D. Fogal   |
| <b>Customer Number:</b>                     | 21324   |
| <b>Filer:</b>                               | Bret Alan Hrivnak/Becky Reese                             |
| <b>Filer Authorized By:</b>                 | Bret Alan Hrivnak   |
| <b>Attorney Docket Number:</b>              | 115838.00056  |
| <b>Receipt Date:</b>                        | 22-OCT-2008   |
| <b>Filing Date:</b>                         | 04-JUN-2001   |
| <b>Time Stamp:</b>                          | 15:20:18  |
| <b>Application Type:</b>                    | Utility under 35 USC 111(a)                               |

### Payment information:

| Submitted with Payment | no                                |                       |  |                  |                  |
|------------------------|-----------------------------------|-----------------------|--|------------------|------------------|
| <b>File Listing:</b>   |                                   |                       |  |                  |                  |
| Document Number        | Document Description              | File Name             | File Size(Bytes)/<br>Message Digest                | Multi Part /.zip | Pages (if appl.) |
| 1                      | Request for status of Application | statusinquiry2008.pdf | 117899<br>b31f6edb5ad1ac1151cf3e9fbc097b79f27b502e | no               | 2                |
| <b>Warnings:</b>       |                                   |                       |  |                  |                  |
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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

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If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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09/873,872

06/04/2001

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## NOTICE UNDER 37 CFR 1.251 - Abandoned Application

☒ The file of the above-identified application cannot be located after a reasonable search. Therefore, the Office is initiating the reconstruction of the file of the above-identified application pursuant to the provisions of 37 CFR 1.251.

Applicant is given a period of **THREE (3) MONTHS** from the mailing date of this notice within which to provide a copy of applicant's record (if any) of all of the correspondence between the Office and applicant for the above-identified application (except for U.S. patent documents), a list of such correspondence, and a statement that the copy is a complete and accurate copy of applicant's record of all of the correspondence between the Office and the applicant for the above-identified application (except for U.S. patent documents), and whether applicant is aware of any correspondence between the Office and applicant for the above-identified application that is not among applicant's records.

☐ The following paper(s) pertaining to the above-identified application cannot be located after a reasonable search:

Therefore, the Office is initiating the reconstruction of such paper(s) pursuant to the provisions of 37 CFR 1.251.

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Alternatively, applicant may reply to this notice by producing applicant's record (if any) of all of the correspondence between the Office and the applicant for the above-identified application for the Office to copy (except for U.S. patent documents), and provide a statement that the papers produced by applicant are applicant's complete record of all of the correspondence between the Office and the applicant for the above-identified application (except for U.S. patent documents), whether applicant is aware of any correspondence between the Office and the applicant for the above-identified application that is not among applicant's records. Such records must be brought to the Customer Service Center in the Office of Initial Patent Examination (Crystal Plaza 2, 2011 South Clark Place, Arlington, VA 22202).

If applicant does not possess any record of the correspondence between the Office and the applicant for the above-identified application (or any copy of the paper(s) listed above), applicant must reply to this notice by providing a statement that applicant does not possess any record of the correspondence between the Office and the applicant for the above-identified application.

☐ A printout from PALM of the contents of the file of the above-identified application is included with this notice.

Direct the reply to this notice to:

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09/873,872

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Statement (check the appropriate box):

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**Burden Hour Statement:** This collection of information is required by 37 CFR 1.251. The information is used by the public to reply to a request for copies of correspondence between the applicant and the USPTO in order to reconstruct an application file. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This form is estimated to take 60 minutes to complete. This time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, Virginia 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.**